


STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF THE DIRECTOR
P.O. Box 176 Jefferson City, MO

Bob Holden, Governor • Stephen M. Mahfood, Director

**MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT
PART I
PERMIT NUMBER: MO4213820489**

PERMITTEE

Owner: Department of the Army
Lake City Army Ammunition Plant
P.O. Box 1000
Independence, MO 64051-1000

Operator: Alliant Lake City Small Caliber
Ammunition Company LLC
Lake City Army Ammunition Plant
P.O. Box 1000
Independence, MO 64051-1000

FACILITY LOCATION

Intersection of Missouri Highways 78 and 7
Independence, MO 64051
Jackson County
North Latitude - 39°06'15"
West Longitude - 94°16'50"

FACILITY DESCRIPTION

The Lake City Army Ammunition Plant is a Class II government-owned contractor-operated military industrial installation under the jurisdiction of the U.S. Army Operations Support Command. The plant manufactures small arms ammunition for the Department of Defense.

PERMITTED ACTIVITIES

This Permit allows for the storage and incineration of "characteristic" hazardous waste as well as storage of various "F, K, and U" listed hazardous wastes as specified in the Part A application. The hazardous wastes include obsolete and/or off-specification ammunitions generated on site and/or off site by Alliant Lake City Small Caliber Ammunition Company LLC, Department of Defense and Department of Defense Contractors as well as other production and maintenance related wastes generated on site.

Lake City Army Ammunition Plant
Missouri Hazardous Waste Management Facility Permit – Part I
MO4213820489
Page 2

EFFECTIVE DATES OF PERMIT: May 17, 2002 to May 17, 2012

[Original signed by Stephen M. Mahfood]

May 17, 2002
Date

Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES

TABLE OF CONTENTS

INTRODUCTION.....	5
DEFINITIONS	9
SCHEDULE OF COMPLIANCE.....	11
STANDARD PERMIT CONDITION	14
GENERAL PERMIT CONDITIONS	15
SPECIAL PERMIT CONDITIONS.....	16
I. Storage in Containers [40 CFR Part 264 Subpart I].....	16
II. Incinerator Requirements [40 CFR Part 264 Subpart O]	20
III. Post-Closure Care Requirements [10 CSR 25-7.264(2)(G)].....	35
IV. Waste Minimization	37
V. Groundwater Protection Standards [40 CFR Part 264 Subpart F]	38
VI. Seismic Evaluation Requirements [10 CSR 25-7.270(2)(B)4.]	38
VII. Air Emission Standards for Tanks, Surface Impoundments, and Containers [10 CSR 25-7.264(1)].....	38
CORRECTIVE ACTION CONDITIONS	39
I. Identification of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) [40 CFR 264.101].....	39
II. Notification Requirements for, and Assessment of, Newly-Identified SWMU(s) and Areas of Concern (AOCs).....	39
III. Notification Requirements for, and Assessment of, Newly-Identified Releases From Previously-Identified Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs).....	41
IV. Stabilization.....	43
V. RCRA Facility Investigation (RFI) Work Plan.....	43
VI. RCRA Facility Investigation (RFI) Report	45
VII. Corrective Measures Study (CMS) Work Plan	46
VIII. Corrective Measures Study (CMS) Report	48
IX. Final Remedy Approval	49
X. Annual Progress Reports.....	49
XI. Supplemental Data	50
XII. Review and Approval Procedures.....	50

FACILITY SUBMISSION SUMMARY 52

ATTACHMENT A..... 54

ATTACHMENT B..... 55

INTRODUCTION

After public notice in accordance with 10 CSR 25-8.124 and 40 CFR Part 124 and review of the Lake City Army Ammunition Plant's Hazardous Waste Facility Permit Application (hereafter referred to as the Application), the Missouri Department of Natural Resources (hereafter referred to as the Department) has determined that the application substantially conforms to the provisions of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (commonly known as RCRA) and regulations promulgated thereunder by the United States Environmental Protection Agency (hereafter referred to as EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations) and the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act). In accordance with Section 260.375.13, RSMo, and the Solid Waste Disposal Act, the Department hereby approves the application and issues Permit Number MO4213820489 to the Department of the Army and Alliant Lake City Small Caliber Ammunition Company LLC (hereafter referred to collectively as the Permittee) for the construction and operation of the hazardous waste facility as set forth in the application and this Permit. This Permit also addresses corrective action requirements for solid waste management units and the requirements of the Hazardous and Solid Waste Amendments of 1984 (commonly known as HSWA) as administered and enforced by the Department. Applicable regulations are found in 40 CFR Parts 124, 260 through 264, 266, 268, and 270, as specified in this Permit. All portions of this Permit, referred to as Part I, are issued under state authority, with the exception of Part II which is issued by EPA to address regulatory requirements of the HSWA for which the state is not yet authorized. Part I of this Permit shall remain in effect even if Part II is terminated or has expired.

The permit application that was submitted by the Permittee May 4, 1999, and all revisions dated June 22, 1999, July 22, 1999, October 28, 1999, April 13, 2000, June 29, 2000, and July 20, 2000, the final health profile dated November 5 2001, and the habitual violator disclosure, will hereafter be referred to as the "approved Permit application." The approved Permit application, along with all of the additional documents to be submitted under Schedule of Compliance, Item I.A. is defined as the "consolidated Permit application."

All Permit application information shall be available to the public unless nondisclosure is requested in writing as set forth in Section 260.430, RSMo and 10 CSR 25-7.270(2)(B)2. The Permit and accompanying material will be available for review by the public at the Department's central office in Jefferson City, Missouri, the EPA Region VII office in Kansas City, Kansas, and the Mid-Continent Public Library, Blue Springs, Missouri.

The Permittee's hazardous waste facility is located at the intersection of Missouri Highways 78 and 7, Independence, Missouri. The Permittee is permitted to operate the container storage facilities and incinerator as specified in this Permit.

Construction and operation of this hazardous waste facility and corrective action shall be in accordance with the provisions of this Permit, the Missouri Hazardous Waste Management Law (Sections 260.350 to 260.434, RSMo), the rules and regulations promulgated thereunder [Code of State Regulations, Title 10, Division 25 (10 CSR 25)] as effective on the date of this Permit, all the final engineering plans, petitions, specifications, and operating procedures which were submitted to the Department during the permit application review process and which are included in the final version of the permit application, which is hereby approved by the Department, and any other conditions, changes, or additions to the plans, specifications, and procedures as specified in this Permit. The consolidated Permit application, which includes engineering plans, specifications and operating procedures, is therefore incorporated into the conditions of this Permit. All conditions specified in this Permit supersede any conflicting information in the consolidated Permit application. Where conflicts arise between documents the latest revision shall be effective.

Any inaccuracies found in information submitted may be grounds for the termination, revocation and re-issuance, or modification of this Permit in accordance with 40 CFR Part 270 Subpart D, incorporated by reference in 10 CSR 25-7.270(1) and modified in 10 CSR 25-7.270(2)(D), and for potential enforcement action. The Permittee shall inform the Department of any deviation from, or changes in, the information in the application, which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

When the Department receives any information (such as inspection results, information from the Permittee, or requests from the Permittee) it may decide whether cause exists to modify, revoke and reissue, or terminate a facility's permit. All such changes to the permit will be in accordance with 10 CSR 25-7.270(2)(D), 10 CSR 25-8.124, and 40 CFR Part 270 Subpart D, as incorporated by reference in 10 CSR 25-7.270(1).

The Permittee is required to comply with all applicable environmental laws and regulations enforced by the Department. These environmental requirements are administered by the Air Pollution Control Program, the Hazardous Waste Program, the Land Reclamation Program, the Public Drinking Water Program, the Solid Waste Management Program, and the Water Pollution Control Program. Noncompliance with these environmental laws and regulations may, in certain circumstances, result in the suspension or revocation of this Permit and may subject the permit holder to civil and criminal liability.

This Permit for operational, closure and corrective action activities is issued only to the Permittee named above. This Permit is issued for a period of ten years and expires at midnight on May 17, 2012. This Permit is subject to review and modification by the Department in accordance with Section 260.395.12, RSMo.

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.

All citations to federal regulations throughout this Permit are for the sake of convenient reference. The federal regulations are adopted by reference in 10 CSR 25. In the instances where state regulations are more stringent, the appropriate state reference is given and shall apply.

Any appeals of the issuance or denial of the permit or specific permit conditions based on state authority shall be filed in accordance with Section 260.395.11, RSMo and 10 CSR 25-8.124(2). The appeal shall be filed with the Missouri Hazardous Waste Management Commission within 30 days from the date of this Permit. The Missouri Supreme Court has ruled that corporations and associations may only proceed in legal matters through attorneys licensed to practice in Missouri. *Reed v. Labor and Industrial Relations Commission*, 789 S.W.2d 19 (Mo banc 1990). The court has determined that pleading filed by a non-attorney on behalf of a corporation or association is considered null and void, and therefore such pleading will not be accepted by the Hazardous Waste Management Commission. Individuals and partnerships are not required to have an attorney and are allowed to represent themselves in front of the Commission.

40 CFR 264.101(a), as incorporated by reference in 10 CSR 25-7.264(1), requires all owners or operators of facilities seeking a permit for the treatment, storage, or disposal of hazardous waste to institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or hazardous constituents from any solid waste management unit, regardless of the time at which waste was placed in such unit.

40 CFR 264.101(b), as incorporated by reference in 10 CSR 25-7.264(1), requires that permits issued under the Hazardous Waste Management Law, contain a schedule of compliance for corrective action (where corrective action cannot be completed prior to permit issuance) and assurances of financial responsibility for completing such corrective action.

40 CFR 264.101(c), as incorporated by reference in 10 CSR 25-7.264(1), requires that corrective action be taken by the facility owner or operator beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates that, despite the owner/operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action.

Further, 40 CFR 264.101(c), as incorporated by reference in 10 CSR 25-7.264(1), stipulates that the owner/operator is not relieved of any responsibility to cleanup a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. In addition, assurances of financial responsibility for completing such corrective action must be provided.

40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1), requires that each permit issued under that section contain terms and conditions as the department determines necessary to protect human health and the environment.

On July 6, 1999, Missouri received final authorization for revisions to its hazardous waste management program, including the corrective action portion of the HSWA Codification Rule (July 15, 1985, 50 FR 28702) which had been previously adopted by the state. Thus, the corrective action requirements implemented by the state in lieu of EPA are incorporated into Part I of this Permit and are under state authority. Authority for other HSWA requirements for which the state is not authorized is retained by the EPA under Part II of this Permit.

DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meaning as those in RCRA and 40 CFR Parts 124, 260, 261, 264, 266, 268, and 270, and 10 CSR 25, unless this Permit specifically provides otherwise. Where terms are not defined in RCRA, the regulations, the Permit, or EPA guidance or publications, 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.

"Area of Concern (AOC)" means any area where an actual or potential release of hazardous waste or hazardous constituents, which is not from a solid waste management unit, has occurred or is occurring and is determined by the Department to pose a current or potential threat to human health or the environment. Investigation and/or remediation of AOCs may be required pursuant to Section 260.395, RSMo, and 40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1).

"Director" means the Director of the Missouri Department of Natural Resources.

"Facility" means:

"All contiguous land and structures, other appurtenances, and improvements on the land used for treating, storing, or disposing hazardous waste."

"All contiguous property under the control of the owner/operator, for the purpose of implementing corrective action under 40 CFR 264.101, as incorporated by reference in 10 CSR 25-7.264(1) and as specified in Corrective Action Conditions I. through XII. of this Permit."

"Hazardous constituent" means any chemical compound listed in 40 CFR Part 261 Appendix VIII as incorporated in 10 CSR 25-4.261.

"Hazardous waste" means any waste, or combination of wastes as defined by or listed in 10 CSR 25-4 or 10 CSR 25-11, which because of its quantity, concentration, physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or which may pose a threat to the health of humans or other living organisms.

"Release" means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes (including hazardous

constituents) into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).

"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.

"Stabilization" means actions to control or abate threats to human health and/or the environment from releases at RCRA facilities and/or to prevent or minimize the further spread of contamination while long-term remedies are pursued.

SCHEDULE OF COMPLIANCE

- I. Within sixty (60) calendar days after the effective date of this Permit, the Permittee shall:
- A. Submit to the Department two copies of the consolidated Permit application as required by 10 CSR 25-7.270(2)(B)7. This consolidated Permit application shall include the following:
 - 1. The "approved Permit application," as defined in the Introduction of this Permit; and
 - 2. All changes made to the application as a result of the public comment period.
 - B. Submit to the Department a certification by the Permittee that the Permittee has read the permit in its entirety and understands all permit conditions contained herein.
 - C. Submit to the Department a check or money order payable to the State of Missouri for any outstanding engineering review costs.
 - D. Submit to the Department a check or money order payable to the State of Missouri for \$1,000 for each year the permit is to be in effect beyond the first year. This Permit is effective for ten years. Since the Permittee has submitted a check for \$1,000 with the RCRA permit application, the remaining balance to be submitted by the Permittee is \$9,000 less an equivalent of \$1,000 for the period of time from the effective date of this ten year Permit to May 17, 2012. For the purpose of calculating the equivalent per day cost of \$1,000/year, the factor of 365 days/year shall be used. This check shall be directed to the Hazardous Waste Program, Permits Section.
- II. Within one year after the effective date of this Permit, the Permittee shall submit a closure and a post-closure care plan for Department approval in accordance with 10 CSR 25-7.265(2)(G) for the Area 16 Tank Storage Area, map reference 7, and Container Storage Area, map reference 8. The Permittee shall comply with the closure schedule outlined in the approved closure plan. Alternatively, the Permittee may submit to the Department verification that the Area 16 Tank Storage Area, map reference 7, and Container Storage Area, map reference 8 are specifically being addressed by a CERCLA action.

- III. Within ninety (90) calendar days after the effective date of this Permit, the Permittee shall submit an Interim Maintenance Plan for the current cap on the Area 8 Landfill for Department approval. The Permittee shall subsequently follow the Interim Maintenance Plan until final closure of the Area 8 Landfill is carried out. The Permittee shall submit verification to the Department annually that funding was requested and not granted for the Area 8 Landfill closure. One year prior to beginning the Area 8 Landfill closure the Permittee shall submit notification to the Department requesting review and approval of the closure and post-closure care plan as well as any changes or amendments to the plan submitted on May 31, 2001.
- IV. The Permittee shall perform closure on Buildings 49J, 49K, 49L, 49M, 49N 49P, 49Q, 49T, and 49Z in accordance with the closure plan approved in the December 15, 1998, Hazardous Waste Management Facility Permit for The Lake City Army Ammunition Plant and all subsequent approved modifications of the approved closure plan.
- V. The Permittee shall comply, as necessary, with all contingent corrective action requirements of this Permit as specified in the Corrective Action Conditions section and as summarized in Table 8.
- VI. Within thirty (30) calendar days after the effective date of this Permit, the Permittee shall submit a Class 1 permit modification requiring prior director's approval to add the new residences located south of Building 3A. Within ninety (90) calendar days after the effective date of this Permit, the Permittee shall submit new air modeling to determine if the current dilution factor is valid for the residences located south of Building 3A. Within one hundred eighty (180) calendar days after the effective date of this Permit, the Permittee shall update the current Site-Specific Risk Assessment (SSRA) to include the residences located south of Building 3A. The Permittee shall submit a permit modification if the new air modeling or the revised SSRA show that the permit conditions are not protective of human health and the environment within thirty (30) calendar days of submission of the new air modeling or the SSRA.

SUBMITTAL OF REQUIRED INFORMATION

- I. The Permittee shall submit three copies of all reports, documents, or plans/specifications required under the terms of this Permit to:

Chief, Permits Section
Missouri Department of Natural Resources
Hazardous Waste Program
1738 E. Elm Street (lower level)
P.O. Box 176
Jefferson City, MO 65102

- II. The Permittee shall submit two copies of all reports, documents, or plans/specifications required under the terms of this Permit to:

Chief, RCRA Corrective Action and Permits Branch
U.S. Environmental Protection Agency Region VII
Air, RCRA and Toxics Division
901 N. 5th St.
Kansas City, KS 66101

STANDARD PERMIT CONDITION

- I. The Permittee shall comply with the requirements set forth in the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo, 40 CFR Part 264 Subpart H, 40 CFR 270.30, 40 CFR 270.40, 40 CFR 270.42, and 40 CFR 270.51, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

GENERAL PERMIT CONDITIONS

- I. The Permittee shall comply with the requirements set forth in 40 CFR Part 264 Subpart B, 40 CFR Part 264 Subpart C, 40 CFR Part 264 Subpart D, 40 CFR Part 264 Subpart E, 40 CFR Part 264 Subpart H, 40 CFR Part 268, and 40 CFR Part 270, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

- II. Notification of an Emergency Situation [Chapter 260.505.4, RSMo]

The Permittee shall at the earliest practical moment upon discovery of an emergency involving the hazardous waste under the Permittee's control, notify the Department's emergency response hotline at (573) 634-2436 and the National Response Center at 1-800-424-8802.

SPECIAL PERMIT CONDITIONS

The Department has established the following additional permit conditions for the Permittee's hazardous waste facility.

I. Storage in Containers [40 CFR Part 264 Subpart I]

A. Waste Identification

1. The Permittee shall store in containers only the hazardous wastes identified in the Part A Permit Application. All stored wastes are subject to the terms of this Permit.
2. The Permittee shall not store containers containing free liquids in Buildings 13E, 13F, 130A, 130D, 130E, 130F, 68C, 97 Porch and 97B.
3. The Permittee shall not store containers containing munitions or munitions components that bears the D003 waste code in Building 13D.

B. Waste Quantities

The Permittee shall store only the following quantities of hazardous wastes in containers according to this Permit in addition to Department of Defense quantity limitations (the more stringent limitation shall apply):

1. Building 13D: Area A shall not contain more than 15,660 gallons or 292 fifty-five gallon containers, whichever is less. Area B shall not contain more than 5,280 gallons or 96 fifty-five gallon containers, whichever is less. Area C shall not contain more than 6,600 gallons or 120 fifty-five gallon containers, whichever is less. Area D shall not contain more than 9,240 gallons, or 168 fifty-five gallon containers, whichever is less.
2. Buildings 13E and 13F: Each building shall not contain more than 672 fifty-five gallon containers.
3. Building 49BB Cell A1 and 49BB Cell A2: Each cell shall not contain more than 3,610 gallons or exceed the explosive limit of 2000 pounds, whichever is less.

4. Building 97 Porch: Building 97 Porch shall not exceed the explosive limit of 400 pounds.
5. Building 97B: Building 97B shall not exceed the explosive limit of 600 pounds.
6. Building 130A: Building 130A shall not exceed the explosive limit of 60,000 pounds.
7. Buildings 130D, 130E, 130F and 68C: Each building shall not exceed the explosive limit of 100,000 pounds.

C. Condition of Containers [40 CFR 264.171]

1. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from the container to a container that is in good condition or manage the waste in some other way that complies with the conditions of this Permit, such as over-packing.
2. During the entire on-site storage period, containers storing hazardous wastes shall be labeled and marked in accordance with the applicable, currently-effective U.S. Department of Transportation (DOT) regulations regarding hazardous materials, 49 CFR Part 172, except for assigning manifest numbers to the container. [10 CSR 25-7.264(2)(I)2.]
3. The use of placards at exits and entrances of storage buildings in lieu of labeling individual containers, as required by Special Permit Condition I.C.2 above, shall be in accordance with the letter from the Department to the Permittee, dated December 18, 1995.

D. Compatibility of Waste with Containers [40 CFR 264.172]

1. The Permittee shall use a container that is made of, or lined with, materials which will not react with and are otherwise compatible with the hazardous waste to be stored so that the ability of the container to contain the waste is not impaired.

2. Each container shall be packaged following the applicable currently effective DOT regulations regarding hazardous materials pursuant to 49 CFR Part 173 during the entire period the containerized hazardous waste is in storage on-site.

E. Management of Containers [40 CFR 264.173].

1. A container holding hazardous waste shall always be closed during storage, except when it is necessary to add or remove waste or when reactive waste is stored under water and closing the container would create an unsafe condition. A container holding hazardous waste shall not be opened, handled, or stored in a manner that may rupture the container or cause it to leak or spill.
2. The Permittee shall store containers in a manner that ensures physical stability and allows for visual inspection of each container and each container's label.
3. Class 1 flammable liquids, as defined in the National Fire Protection Association's "Flammable and Combustible Liquids Code" (NFPA 30, as revised 1996) shall not be stacked over five (5) feet in height. Class II combustible liquids, as defined in the National Fire Protection Association's "Flammable and Combustible Liquids Code" (NFPA 30, as revised 1996) shall not be stacked over ten (10) feet in height.

F. Inspections [40 CFR 264.174].

At least weekly, the Permittee shall inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.

G. Containment [40 CFR 264.175].

The Permittee shall design and operate containment systems for the container storage areas as follows:

1. A base shall underlie the containers, which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed.

2. The base shall be sloped or the containment system shall be otherwise designed and operated to drain and remove liquids resulting from leaks, spills or precipitation unless the containers are elevated or are otherwise protected from contact with accumulated liquids.
3. The containment system shall have sufficient capacity to contain 10% of the volume of all containers or 100% of the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination.
4. Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in Special Permit Condition I.G.3. above to contain any run-on which might enter the system.
5. Spilled or leaked waste shall be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

H. Staging [10 CSR 25-7.264(2)(A)3.]

A container holding hazardous waste shall not be staged, stored or managed in an area not addressed by this Permit for a period which exceeds twenty-four (24) hours.

I. Special Requirements for Ignitable or Reactive Waste [40 CFR 264.176 and 10 CSR 25-7.264(2)(I)]

Containers holding ignitable or reactive waste shall be located at least 50 feet from the facility's property line.

J. Special Requirements for Incompatible Waste [40 CFR 264.177]

1. The Permittee shall not place incompatible wastes or materials in the same container unless such action is in compliance with the requirements of 40 CFR 264.17(b).
2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.

3. The Permittee shall separate by device (i.e., a dike or other physical means) containers of incompatible waste or materials. No incompatible waste or materials may be stored together in the storage areas without providing separation sufficient to prevent the mixing of any spilled materials which may be incompatible.

K. Closure [10 CSR 25-7.264(2)(G)]

At closure, the Permittee shall remove all hazardous waste and hazardous waste residues from the container storage areas and containment systems and close in accordance with the closure plan in the approved Permit application for the hazardous waste management facility. If the Permittee is unable to close according to the closure plan, then the Permittee must submit a permit modification to the Department in accordance with 40 CFR 270.42.

II. Incinerator Requirements [40 CFR Part 264 Subpart O]

A. Description of the Incinerator

The Explosives Waste Incinerator (EWI) consists of a rotary kiln (APE 1236 Deactivation Furnace) with an air pollution control system consisting of an afterburner, two forced air exhaust gas coolers, a cyclone, a baghouse and an exhaust stack. The EWI is designed to demilitarize obsolete or unserviceable ammunition items, scrap propellant powders and/or explosive wastes.

The Permittee has satisfied the requirements for obtaining a permit under federal regulations found at 40 CFR Part 264 and 40 CFR Part 270. Operating standards are set forth in Special Permit Conditions II of this Permit. Modifications to the EWI, including air pollution control systems, necessary to comply with the final rule modifying 40 CFR Part 264 Subpart O and establishing 40 CFR Part 63 Subpart EEE, shall require a permit modification pursuant to 40 CFR 270.42(a)(2) for Class 1 permit modifications requiring prior written approval of the Director. The operating requirements and limitation of this section shall be modified to incorporate revisions necessary to comply with the final rule, 40 CFR Part 264 Subpart O, and establishing 40 CFR Part 63 Subpart EEE. This modification shall be completed pursuant to 40 CFR 270.42(a)(1) or (a)(2), as appropriate, for Class 1 permit modifications.

Except where specifically noted, the limitations in Special Permit Conditions II.D., E., F., and G. on incinerating hazardous wastes in the EWI will no longer apply

when the Permittee demonstrates compliance with the Maximum Achievable Control Technology requirements of 40 CFR Part 63 Subpart EEE, by conducting a comprehensive performance test and submitting to the Director a copy of the Notification of Compliance under 40 CFR 63.1207(j) and 63.1210(d) submitted to the Administrator documenting compliance with those requirements. This provision which limits applicability of these permit conditions upon the Permittee's compliance with 40 CFR Part 63 Subpart EEE, is effective upon the date the Notification of Compliance submitted to the Administrator is postmarked.

B. Waste Identification

1. The Permittee shall only incinerate hazardous waste identified in the approved Permit application as described by the following hazardous waste codes: D001, D003, D004, D005, D006, D007, D008, D009, D011, and D030. Hazardous wastes not specified in the approved Permit application may not be incinerated until operating conditions have been specified under a new permit or permit modification, as applicable.
2. Liquids containing explosives and hazardous wastes containing free liquids not necessary for safe handling/processing shall not be introduced into the incinerator. Sludge defined as K044, K045 or K046 shall not be introduced into the incinerator. Lead azide sumpage shall not be introduced into the incinerator.

C. Hazardous Waste Analysis

The Permittee shall conduct sampling and analysis as described in the approved Permit application, in the pertinent part of the waste analysis plan, to ensure that the hazardous wastes fed into the incinerator are within the physical and chemical composition limits specified in this Permit. This analysis shall be conducted in accordance with *Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Waste*, OSWER 9938, 4-03, April 1994. As described in this reference, the Permittee shall be responsible for accurately identifying and classifying hazardous wastes regardless of information supplied by the generator.

- D. For purposes of permit enforcement, compliance with the operating requirements specified in this Permit will be regarded as compliance with 40 CFR 264.343 and Special Permit Condition II.E. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the performance

requirements of 40 CFR 264.343 and Special Permit Condition II.E. maybe "information" justifying modification, revocation, or reissuance of a permit under 40 CFR 270.41.

E. Emission Standards

The Permittee shall maintain the incinerator, hazardous waste feed systems, and the associated air pollution control equipment, so that, when operated in accordance with the waste feed limitations and operating requirements specified in this Permit, they will meet the following emission standards:

1. The incinerator shall achieve a Destruction and Removal Efficiency (hereafter referred to as DRE) of 99.99 percent for each of the following principal organic hazardous constituents (hereafter referred to as POHCs) designated in this Permit, and listed below, for each hazardous waste feed:
 - a. nitroglycerin,
 - b. dinitrotoluene, and
 - c. diphenylamine.

The DRE shall be determined using the formula specified in 40 CFR 264.343(a)(1).

2. The incinerator shall not emit particulate matter in excess of 0.08 grains per dry standard cubic foot of stack gas when corrected to seven percent by volume of oxygen in the stack gas, in accordance with the formula specified at 40 CFR 264.343(c).
3. The emission rates of arsenic (As), beryllium (Be), Cadmium (Cd) and Chromium VI (Cr+6) shall be limited so as to satisfy the following equation:

$$\frac{AER\ of\ As}{8.20 \times 10^{-5}\ g/m^3} + \frac{AER\ of\ Be}{1.50 \times 10^{-4}\ g/m^3} + \frac{AER\ of\ Cd}{2.00 \times 10^{-4}\ g/m^3} + \frac{AER\ of\ Cr^{+6}}{2.96 \times 10^{-5}\ g/m^3} \leq 1$$

4. The stack emission rates shall not be in excess of the following limits in Table 1:

TABLE 1 - Metal Emission Limits

Metal	Emission Limit Basis	Emission Limit (g/m ³)
Antimony	Adjusted Tier I	1.84x10 ⁻³
Barium	Adjusted Tier I	1.78
Chromium III	Tier III	35.6
Lead	Tier II	5.56x10 ⁻⁴
Mercury	Adjusted Tier I	1.07x10 ⁻²
Silver	Adjusted Tier I	0.107
Thallium	Adjusted Tier I	1.78x10 ⁻²

5. The Permittee shall control hydrogen chloride (hereafter referred to as HCl) emissions from the incinerator such that the rate of emissions is no greater than 1.8 kilograms per hour (4 pounds per hour).

F. Operating Requirements

The following operating requirements are established to ensure conformance with the emission standards set forth in this Permit and safe operation of the incinerator. The Permittee must operate the incinerator in accordance with the operating requirements specified in Part I of this Permit at all times when there is hazardous waste in the incinerator. The incinerator shall be constructed, maintained and operated in accordance with the design plans and specifications contained in the permit application and as per the manufacturer's specifications where they are more restrictive.

Hazardous wastes shall not be introduced into the incinerator unless the operating conditions in Special Permit Condition II.F. are being met, all of the instruments required to verify compliance with such conditions are functioning properly, and the parameters measured by the instruments are being recorded as required by this Permit. The Permittee shall cease feeding hazardous waste when changes in waste feed, incinerator design or operating conditions of the incinerator deviate from the limits specified in this Permit, as required by 40 CFR 264.345(f).

1. The feed rate limitations contained in this permit condition shall remain in effect after the Permittee demonstrates compliance with 40 CFR Part 63 Subpart EEE. Removal of these feed rate limitations shall require a permit modification pursuant to 40 CFR 270.42(a)(2) for Class 1 permit modification requiring prior written approval of the Director.
 - a. The explosives feed rate shall not exceed 200 pounds per hour. Explosive feed rate shall be calculated by summing the individual feed rates of propellant powder, primer mix and pyrotechnic mix; and
 - b. The maximum net explosives feed rate shall be equal to or less than 110.1 pounds per hour measured in TNT equivalents. The method for calculating the TNT equivalent feed rate is shown in Attachment B.
2. POHCs with a heat of combustion lower than nitroglycerin (i.e., 3.79 kilocalories per gram) and POHCs ranked lower than Class 2 (i.e., Class 1 POHCs) on the POHC Thermal Stability Index shall not be fed to the incinerator. The individual POHC feed rates shall not exceed the rates in Table 2, which are expressed in pounds per hour:

TABLE 2 - POHC Feed Rates

POHC	Feed Rate(lbs/hr)
Nitroglycerin	17.4
Dinitrotoluene	12.7
Diphenylamine	4.1

3. Hazardous waste feed rates shall be limited to an extent such that hydrogen chloride (HCl) emissions do not exceed 1.8 kilograms per hour (4 pounds/hour).
4. Hazardous waste feed rates shall be limited to the extent such that the feed rates specified in Table 3 below are not exceeded.

TABLE 3 - Maximum Metal Feed Rate Limits

Compound	Emission Limit Basis	Feed Rate(lbs/hr)
Arsenic	Adjusted Tier I	1.38x10 ⁻³
Beryllium	Tier III	0.0148
Cadmium	Tier III	1.12
Chromium VI	Tier III	0.145
Antimony – OB *	Tier II	1.99
Antimony - M *	Tier II	2.94
Barium	Adjusted Tier I	29.9
Chromium III	Tier III	2.50
Lead - OB *	Tier II	3.11
Lead - M *	Tier II	165.07
Mercury	Adjusted Tier I	0.179
Silver	Adjusted Tier I	1.79
Thallium	Adjusted Tier I	0.299

*NOTE: OB stands for Organically Bound metal, expressed as elemental metal (e.g., lead styphnate contains 0.442 grams of lead per gram of lead styphnate), which includes all lead compounds, such as is present in primers and propellant powders, and M stands for metallic metal, such as is present in projectiles, cartridge casings, and primer cups. Feed rates, not designated with "M" or "OB," are total feed rates for the indicated metal.

5. Automatic Waste Feed Cut-Offs (AWFCO)

While incinerating hazardous wastes, the incinerator shall be operated with the automatic waste feed cut-off system, as described in the approved Permit application, functioning so that hazardous waste feed is automatically cut-off when any operating condition specified in this Permit is not met.

The operating conditions specified in this Permit shall be maintained at all times while hazardous waste or hazardous waste residues remain in the combustion chamber.

Exhaust gas must exit through the air pollution control equipment, as specified in the application, which shall be operated in accordance with the requirements specified in this Permit while hazardous waste or hazardous waste residues remain in the rotary kiln.

All operating conditions for which limits are established in this Permit shall continue to be monitored during an automatic waste feed cut-off, and the hazardous waste feed shall not be restarted until the incinerator is operating under all conditions specified in this Permit.

- a. The maximum hazardous waste feed rate to the incinerator, monitored as specified in Special Permit Condition II.G., shall not exceed 2,100 pounds per hour for any specific waste feed type.
- b. The combustion (retort) temperature, monitored as specified in Special Permit Condition II.G., shall be maintained within an operating range of 250°F to 1000°F for the retort inlet temperature, and within an operating range of 600°F to 1200°F for the retort outlet temperature. The Specific Product Operation Guide (SPOG) required by Special Permit Condition II.F.6. of this Permit shall specify the rotary kiln temperatures for specific waste feed types that are fed to the incinerator.
- c. The rotary kiln rotation rate, monitored as specified in Special Permit Condition II.G., shall be maintained within an operating range of 0.5 to 4.5 revolutions per minute. The SPOG required by Special Permit Condition II.F.6. of this Permit shall specify the rotary kiln rotation rate for specific waste feed types that are fed to the incinerator.

- d. The Permittee shall comply with the requirements of 40 CFR 264.345(d) to prevent fugitive emissions by:
- i. Maintaining a minimum negative pressure of 0.1 inches of water in both the rotary kiln and Shroud A, monitored as specified in Special Permit Condition II.G., for all completed cartridges and components of munitions smaller than 20mm. 20mm primed cases and 20mm components not containing explosives may also be processed maintaining a minimum negative pressure of 0.1 inches of water.
 - ii. Maintaining a minimum negative pressure of 0.3 inches of water in both the rotary kiln and Shroud A, monitored as specified in Special Permit Condition II.G., for completed cartridges and components 20mm and larger, containing explosives.
 - iii. Maintaining a minimum negative pressure of 0.1 inches of water in both the rotary kiln and Shroud A, monitored as specified in Special Permit Condition II.G., for completed cartridges and components 20mm and larger, containing explosives if it can be successfully demonstrated during SPOG "ramp-up" procedures that no fugitive emissions will occur. The "ramp-up" procedure shall be submitted and conducted in accordance with Special Permit Condition II.F.6.
 - iv. Collection of potential fugitive emissions inside of Shroud B through utilization of the rotary kiln combustion air blower.

Shroud A is defined as the shroud enclosing the inlet and outlet ends of the rotary kiln (Attachment A, Figure 1), and Shroud B is defined as the enclosure covering the rotary kiln exterior (Attachment A, Figure 2). Shroud A and Shroud B are physically separated.

- e. The combustion temperature for the afterburner, monitored as specified in Special Permit Condition II.G., shall be maintained within an operating range of 1300°F to 1450°F at the exit end of the afterburner.

- f. The exit temperature of the high temperature gas cooler, monitored as specified in Special Permit Condition II.G., shall not exceed 900°F. The exit temperature of the low temperature gas cooler, monitored as specified in Special Permit Condition II.G., shall not exceed 400°F.
- g. The pressure drop across the high temperature gas cooler, monitored as specified in Special Permit Condition II.G., shall be no less than 1.7 inches of water. The pressure drop across the low temperature gas cooler, monitored as specified in Special Permit Condition II.G., shall be no less than 2.4 inches of water.
- h. The pressure drop across the cyclone, monitored as specified in Special Permit Condition II.G., shall be no less than 0.5 inches of water.
- i. The exit temperature of the baghouse, monitored as specified in Special Permit Condition II.G., shall be maintained within an operating range of 225°F to 400°F.
- j. The pressure drop across the baghouse, monitored as specified in Special Permit Condition II.G., shall be maintained within an operating range of 2 inches of water to 6 inches of water.
- k. The baghouse bypass shall not be activated except:
 - i. during start-up procedures prior to introduction of waste into the incinerator, and
 - ii. when the inlet temperature of the baghouse exceeds 400°F and waste feed is cut off.
- l. The combustion gas velocity, monitored as specified in Special Permit Condition II.G., shall be maintained within an operating range of 50 ft/sec to 30 ft/sec.
- m. The carbon monoxide concentration in the stack exhaust gas, monitored as specified in Special Permit Condition II.G., shall not exceed 100 ppmv corrected to seven percent oxygen on a dry basis over a one-hour rolling average.

- n. The auxiliary fuel burners, incinerator and associated air pollution control equipment shall be operated in accordance with specifications provided by the equipment manufacturer or in accordance with modifications approved by the permitting agency.

In the event that the operating conditions set out in Special Permit Conditions II.F.5.a.-n. above are not met at any time when hazardous waste is present in the incinerator, an automatic waste feed cut-off shall be activated immediately, and the Permittee shall cease feeding hazardous waste in the incinerator until such time as the operating conditions specified for the incinerator are again being met. Table 4 is a listing of the automatic waste feed cut-offs required by Special Permit Condition II.F.5.a.-n. above, describing the parameters and limits that shall activate the automatic waste feed cut-off mechanism as described in the approved Permit application.

TABLE 4 - Automatic Waste Feed Cut-off Limits

Operating Parameter	Cut-off Limit	Location of Monitoring Device
Maximum Hazardous Waste Feed	2100 Pounds per Hour *	Feed Room
Retort Inlet Temperature	<250°F and >1000°F *	Duct After Retort
Retort Outlet Temperature	<600°F and >1200°F *	Burner End of Retort
Rotary Kiln Rotation Rate	<0.5 RPM and >4.5 RPM *	Rotary Kiln
Minimum Rotary Kiln Differential Pressure	<0.1" wg for Munitions <20mm <0.3" wg for Munitions ≥20mm	Duct After Retort
Afterburner Temperature	<1300°F and >1450°F	Duct After Afterburner
High Temperature Gas Cooler Temperature	>900°F	Duct After High Temperature Gas Cooler
Low Temperature Gas Cooler Temperature	>400°F	Duct After Low Temperature Gas Cooler
High Temperature Gas Cooler Differential Pressure	<1.7" wg	Duct After High Temperature Gas Cooler

Operating Parameter	Cut-off Limit	Location of Monitoring Device
Low Temperature Gas Cooler Differential Pressure	<2.4" wg	Duct After Low Temperature Gas Cooler
Cyclone Differential Pressure	<0.5" wg	Duct After Cyclone
Baghouse Temperature	<225°F and >400°F	Duct After Baghouse
Baghouse Differential Pressure	<2" wg and >6" wg	Within Each Baghouse
Baghouse Bypass Damper	Open	Bypass Damper
Combustion Gas Velocity	<30 ft/sec and >50 ft/sec	Stack
CO	>100 ppmv (HRA)	Stack
All Conveyors and Retort Motion Sensors	No Motion	Individual Conveyor and Retort Locations
All Motors	Failure	Individual Motor Locations
Fuel Rate	No Fuel Flow	Fuel Feed
Retort Burner Flame Out	Loss of Flame	Retort Burner
Afterburner Flame Out	Loss of Flame	Afterburner Burner
Waste Feed Monitor	Failure	Waste Feed Conveyor
Retort Combustion Air Blower	Failure	Retort Combustion Air Blower
Retort Burner Controller	Failure	Retort Burner
Afterburner Burner Controller	Failure	Afterburner Burner
Induced Draft Fan	Failure	Induced Draft Fan
Induced Draft Fan Controller	Failure	Induced Draft Fan

* NOTE: The maximum hazardous waste feed, retort temperature, rotary kiln rotation rate and rotary kiln differential pressure are waste-specific and shall be in accordance with the standard operating procedures specified in the SPOG required by Special Permit Condition II.F.6.

6. Specific Product Operation Guides

The requirements for submission of SPOGs contained in this permit condition shall remain in effect after the Permittee demonstrates compliance with 40 CFR Part 63 Subpart EEE. Removal of this requirement shall require a permit modification pursuant to 40 CFR 270.42(a)(2) for Class 1 permit modifications requiring prior written approval of the Director.

Maximum feed rates of specific waste feed types to the incinerator shall not exceed the general criteria specified in Special Permit Conditions II.B., II.E. and II.F.1. through II.F.4. of this Permit and shall only be incinerated in accordance with operating requirements specified in Special Permit Condition II.F.5. of this Permit. The Permittee shall develop a Specific Product Operation Guide (SPOG) as specified below.

- a. Within 30 calendar days prior to the incineration of any specific waste feed types that are not currently being incinerated at the facility, the Permittee shall submit, by certified mail, a SPOG with corresponding documentation used to determine the feed rate of the new specific waste feed type. The Permittee may begin processing the new waste type once the 30-day period has expired or the Department notifies the Permittee. Although the Permittee must submit the SPOG 30 days prior to incineration to allow the Department time for review, a lack of response from the Department does not indicate the Department has verified the accuracy or suitability of the information submitted. The Permittee bears full responsibility for the accuracy of the SPOGs.
- b. The SPOG shall specify maximum mass feed rates of specific waste feed types (in pounds per minute) that can be fed into the incinerator in accordance with the general criteria and operating requirements of this Permit. These mass feed rate limitations shall be based on the total weight of casings, projectiles and other hardware. The maximum mass feed rate per minute for each waste feed type to be processed in the rotary kiln (retort) shall be calculated by dividing the maximum hourly mass feed rate for each waste feed type by the conversion factor of 60 minutes per hour, and multiplying the result by a factor of 1.2. At no time shall the feed rate (in pounds per hour or pounds per minute) for any specific waste feed type be exceeded.

- c. The Permittee shall also submit a "ramp-up" procedure with the SPOG to verify the munition can be processed in the manner specified in the SPOG. "Ramp-up" is defined as a gradual increase in feed rate used to evaluate the response of the unit to a new munition. If the ramp-up procedure reveals the need for revisions to the SPOG, the Permittee must submit a revised SPOG to the department.
- d. "Ramp-up" procedures containing procedures for compliance with Special Permit Condition II.F.5.d.iii. shall provide the feed rate increase and time interval for increasing the feed rate and the fugitive emission monitoring procedures and standards. The Permittee shall provide 15-day notification to the Department prior to conducting a "ramp-up" for compliance with Special Permit Condition II.F.5.d.iii.

G. Monitoring

- 1. The Permittee shall maintain, calibrate, and operate continuous monitors which monitor and record the operating conditions specified in Special Permit Condition II.F.5. of this permit and any one minute averages used to calculate hourly rolling averages. The continuous process monitoring instruments are specified in Table 5 of this Permit.

TABLE 5 - Process Monitoring Instrumentation

Parameter	Instrument	Location	Calibration Frequency
Maximum Hazardous Waste Feed	Weigh Belt	Feed Room	Quarterly
Retort Inlet Temperature	Thermocouple	Duct After Retort	Annually
Retort Outlet Temperature	Thermocouple	Burner End of Retort	Annually
Rotary Kiln Rotation Rate	Motion Sensor	Rotary Kiln	Not Required
Minimum Rotary Kiln Differential Pressure	Differential Pressure Transmitter	Duct After Retort	Semi-Annually
Afterburner Temperature	Thermocouple	Duct After Afterburner	Annually

Parameter	Instrument	Location	Calibration Frequency
High Temperature Gas Cooler Temperature	Thermocouple	Duct After High Temperature Gas Cooler	Annually
Low Temperature Gas Cooler Temperature	Thermocouple	Duct After Low Temperature Gas Cooler	Annually
High Temperature Gas Cooler Differential Pressure	Differential Pressure Transmitter	Duct After High Temperature Gas Cooler	Semi-Annually
Low Temperature Gas Cooler Differential Pressure	Differential Pressure Transmitter	Duct After Low Temperature Gas Cooler	Semi-Annually
Cyclone Differential Pressure	Differential Pressure Transmitter	Duct After Cyclone	Semi-Annually
Baghouse Temperature	Thermocouple	Duct After Baghouse	Annually
Baghouse Differential Pressure	Differential Pressure Transmitter	Duct After Baghouse	Semi-Annually
Baghouse Bypass Damper	Proximity Sensor	Bypass Damper	Not Required
Combustion Gas Velocity	Velocity Transmitter	Stack	Semi-Annually
CO	Extractive Carbon Monoxide Analyzer	Stack	Daily
O ₂	Extractive Oxygen Analyzer	Stack	Daily
Discharge Conveyor	Motion Sensor	Discharge of Kiln	Not Required

2. Upon request of the Department, the Permittee shall perform sampling and analysis of the waste and exhaust emissions to verify that the operating requirements established in the permit achieve the performance standards specified in Special Permit Condition II.E.
3. Upon request by the Department, the Permittee shall immediately provide a hard and/or electronic copy of the monitoring data.

4. The Permittee shall provide video monitoring of the "ramp-up" procedure for compliance with Special Permit Condition II.F.5.d.iii. The Permittee shall place the video monitoring in the operating record and, upon request, provide a copy to the Department within 3 days.

H. Inspection

The Permittee shall inspect the incineration unit in accordance with the Inspection Schedule found in the permit application. This shall include, but is not limited, to:

1. The Permittee shall thoroughly, visually inspect the incinerator and associated equipment (including pumps, valves, conveyors, pipes, etc.) at least daily for leaks, spills, fugitive emissions, and signs of tampering.
2. The Permittee shall thoroughly, visually inspect the instrumentation for out-of-tolerance monitored and/or recorded operational data in accordance with Special Permit Condition II.G.
3. The Permittee shall test the automatic waste feed cut-off system and associated alarms at least weekly to verify operability, as specified in Special Permit Condition II.F.5.
4. During start-up and shutdown of the incinerator, hazardous waste must not be introduced into the incinerator unless the incinerator is operating within the conditions specified in Special Permit Condition II.F.
5. The Permittee must control fugitive emissions from the incinerator by maintaining adequate seals on each end of the rotary kiln (retort) and the feed ports, and compliance with the conditions specified in Special Permit Condition II.F.5.d. If any fugitive emissions are detected from the incinerator, the waste feed cut-off must be activated and waste must not be fed to the incinerator until the situation has been corrected.
6. The Permittee shall install, maintain, and calibrate the waste feed cut-off systems identified in Special Permit Condition II.F.5. to automatically cut off waste feed to the rotary kiln whenever the operating parameters identified in Special Permit Condition II.F.5. are exceeded.

III. Post-Closure Care Requirements [10 CSR 25-7.264(2)(G)]

The Permittee shall comply with all applicable requirements of 10 CSR 25-7.264(2)(G) and all provisions of this Permit.

- A. The following units have been identified as requiring post-closure care.
1. Oil and grease trenches: The post-closure care plan for the oil and grease trenches was received on June 16, 1989. This plan was approved, with modifications, on April 10, 1990, and is hereby incorporated by reference.
 2. East industrial wastewater treatment plant impoundments: The post-closure care plan for the east industrial wastewater treatment plant impoundments was received on June 16, 1989. This plan was approved, with modifications, on April 10, 1990, and is hereby incorporated by reference.
 3. West industrial wastewater treatment plant impoundments: The post-closure care plan for the west industrial wastewater treatment plant impoundments was received on June 16, 1989. This plan was approved, with modifications, on April 10, 1990, and is hereby incorporated by reference.
 4. Four explosive wastewater lagoons: The post-closure care plan for the four explosive wastewater lagoons was submitted on May 22, 1990, and is hereby incorporated by reference.
 5. Seven explosive wastewater impoundments: The post-closure care plan for the seven explosive wastewater impoundments was submitted on March 14, 1990, and is hereby incorporated by reference.
 6. Area 8 Landfill: Upon approval of the post-closure care plan for the Area 8 landfill, if required, the Permittee shall comply with that plan and the requirements of this Permit.
- B. Post-closure care begins after completion of closure of the hazardous waste management units and continues for thirty (30) years after that date unless otherwise specified by the Director.

Post-closure use of the property shall be restricted by the Permittee to prevent disturbance of the integrity of the final cover of each closed landfill and to prevent

damage to the monitoring systems. The Director can approve a use of the property that disturbs the integrity of the final cover if it is necessary for the proposed use of the property and will not increase the potential hazard to human health or the environment, or if it is necessary to reduce a threat to human health or the environment.

- C. Post-closure shall be in accordance with the plan submitted to the Department. The post-closure care plan may be amended at any time during the active life of the facility of the post-closure period. The Permittee must submit a written request for a permit modification to authorize a change in the plan whenever changes in operating plans of hazardous waste management units' design affect the approved plan, or final closures, affect the approved post-closure plan. Amendments are subject to the applicable permit modification requirements of 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D) and 10 CSR 25-8.124. Written requests for amendments must be submitted at least sixty (60) days prior to the proposed change in site operations or no later than sixty (60) days after an unexpected event which has affected the plan. The Director may request modifications to the plan if changes in site operations affect the approved plan. The Permittee must submit the modified plan no later than sixty (60) days after the Director's request.

After final closure has been certified, the facility contact during the post-closure care period must keep the approved post-closure plan for the remainder of the post-closure period, as required by 40 CFR 264.118(c).

- D. Post-Closure Notices
1. No later than sixty (60) days after certification of closure of each hazardous waste disposal unit, the Permittee must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Director a record of the type, location, and quantity of hazardous waste disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the Permittee must identify the type, location, and quantity of the hazardous wastes to the best of the Permittee's knowledge and in accordance with any records kept.
 2. Within sixty (60) days of Certification of Closure of the first hazardous waste disposal unit and within sixty (60) days of certification of closure of the last hazardous waste disposal unit, the Permittee must:

- a. Record, in accordance with state law, a notation on the deed to the facility property - or on some other instrument, which is normally examined during title search - which will in perpetuity notify any potential purchaser of the property, that:
 - i. The land has been used to manage hazardous waste;
 - ii. Its use is restricted under 10 CSR 25-7.264(2)(G) regulations; and
 - iii. The survey plat and record of type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by 40 CFR 264.116 and 264.119(a) have been filed with the local zoning authority, or the authority with jurisdiction over local land use, and with the Director; and
 - b. Submit a certification, signed by the Permittee, that the notation has been recorded as specified in paragraph 2.a. of this section, including a copy of the document in which the notation has been placed, to the Director.
- E. No later than sixty (60) days after completion of the post-closure care period, the Permittee must submit to the Director, by registered mail, a certificate that the post-closure care period was performed in accordance with the approved plan. The certification must be signed by the Permittee and an independent registered professional engineer licensed in the state of Missouri.
- F. The groundwater monitoring program in place at the time of commencement of post-closure care shall be continued through the post-closure care period, unless otherwise amended by the Department. In the event that the CERCLA groundwater monitoring program is terminated during post-closure care or provides inadequate data to ensure proper monitoring of any post-closure care unit, the Permittee must submit a permit modification to the Department to address groundwater monitoring.

IV. Waste Minimization

Pursuant to 40 CFR 264.73(b)(9), the facility operating record shall contain a certification by the Permittee, made no less often than annually, that the Permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree

determined by the Permittee to be economically practicable; and the proposed method of treatment, storage, or disposal is that practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment.

V. Groundwater Protection Standards [40 CFR Part 264 Subpart F]

Groundwater protection standards have been deferred to the CERCLA program. This is acceptable with the understanding that all RCRA issues are being fully addressed under the Permittee's CERCLA site-wide groundwater investigation plan. If at any time the Department determines that all RCRA groundwater issues are not being addressed, this Permit shall be modified to address the issue in question.

VI. Seismic Evaluation Requirements [10 CSR 25-7.270(2)(B)4.]

The Permittee has demonstrated compliance with the seismic requirements as certified by an independent professional engineer registered in the state of Missouri. The Permittee shall maintain the seismic evaluation in the operating record.

VII. Air Emission Standards for Tanks, Surface Impoundments, and Containers [10 CSR 25-7.264(1)]

The Permittee shall comply with the applicable requirements of 40 CFR Part 264 Subpart CC, as amended December 8, 1997, for all units identified in Table 6.

TABLE 6 - Units Subject to Subpart CC Standards

Unit Identification	Unit Type	Subpart CC Control Option
Building 13D	Container Storage	40 CFR 264.1086

CORRECTIVE ACTION CONDITIONS

I. Identification of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)
[40 CFR 264.101]

Corrective action standards have been deferred to the CERCLA program through the Lake City Army Ammunition Plant 120 Inter-Agency Agreement. This deferral applies to the units identified in the approved Permit application. This is acceptable with the understanding that all RCRA issues are being fully addressed under the Permittee's CERCLA remediation. If at any time the Department determines that all RCRA corrective action issues are not being addressed, this Permit shall be modified to address the issue in question.

II. Notification Requirements for, and Assessment of, Newly-Identified SWMU(s) and Areas of Concern (AOCs)

- A. The Permittee shall notify the Department and EPA in writing of any SWMU(s) or AOC(s) identified subsequent to the issuance of this Permit no later than fifteen (15) days after discovery.
- B. The Department may require a SWMU/AOC Assessment Work Plan for conducting an investigation of any newly-identified SWMU(s) or AOC(s). Within thirty (30) days after receipt of the Department's request for a SWMU/AOC Assessment Work Plan, the Permittee shall submit a SWMU/AOC Assessment Work Plan which shall include a discussion of past waste management practices at the unit, as well as a sampling and analysis program for groundwater, land surface and subsurface strata, surface water and/or air, as necessary to determine whether a release of hazardous waste, including hazardous constituents, from such unit(s) has occurred, or is occurring. The sampling and analysis program shall be capable of yielding representative samples and must include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents from the newly-identified SWMU(s)/AOC(s) to the environment. The SWMU/AOC Assessment Work Plan shall specify any data to be collected to provide for a complete SWMU/AOC Assessment Report, as specified below, and shall contain a schedule for implementation of the work plan which is predicated on the date of Departmental approval of the plan.

- C. The SWMU/AOC Assessment Work Plan will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Corrective Action Condition XII. The Permittee shall complete implementation in accordance with the schedule contained in the approved plan.

- D. The Permittee shall submit a SWMU/AOC Assessment Report to the Department and EPA according to the schedule specified in the approved SWMU/AOC Assessment Work Plan. The SWMU/AOC Assessment Report shall present and discuss the information obtained from implementation of the approved SWMU/AOC Assessment Work Plan. At a minimum, the SWMU/AOC Assessment Report shall provide the following information for each newly-identified SWMU/AOC:
 - 1. The location of the newly-identified SWMU/AOC in relation to other SWMUs/AOCs;
 - 2. The type and function of the unit;
 - 3. The general dimensions, capacities, and structural description of the unit;
 - 4. The period during which the unit was operated;
 - 5. The physical and chemical properties of all wastes that have been or are being managed at the SWMU/AOC, to the extent available;
 - 6. The results of any sampling and analysis conducted;
 - 7. Past and present operating practices;
 - 8. Previous uses of the area occupied by the SWMU/AOC;
 - 9. Amounts of waste handled; and
 - 10. Drainage areas and/or drainage patterns near the SWMU(s)/AOC(s).

- E. The SWMU/AOC Assessment Report will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Corrective Action Condition XII. Based on the findings of this report, the Department

will determine the need for further investigations, including stabilization or a RCRA Facility Investigation (RFI), at specific unit(s) identified in the SWMU/AOC Assessment Report.

- F. If the Department determines that additional investigations are needed, the Department may require the Permittee to prepare and submit for approval a work plan for such investigations. This work plan for additional investigations will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Corrective Action Condition XII. The Permittee shall complete implementation in accordance with the schedule contained in the approved plan.
- III. Notification Requirements for, and Assessment of, Newly-Identified Releases From Previously-Identified Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)
- A. The Permittee shall notify the Department and EPA, in writing, of any release(s) of hazardous waste, including hazardous constituents from previously-identified SWMUs and/or AOCs, discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities undertaken after issuance of this Permit, no later than fifteen (15) days after discovery.
- B. The Department may require a Newly-Identified Release Work Plan for conducting an investigation of the newly-identified release(s). Within thirty (30) days after receipt of notice that the Department requires a Newly-Identified Release Work Plan, the Permittee shall submit a Newly-Identified Release Work Plan which shall include a discussion of the waste/chemical management practices related to the release; a sampling and analysis program for groundwater, land surface and subsurface strata, surface water or air, as necessary to determine whether the release poses a threat to human health or the environment; and a proposed schedule for implementation and completion of the Newly-Identified Release Work Plan. The sampling and analysis program shall be capable of yielding representative samples and must include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents to the environment. The Newly-Identified Release Work Plan shall specify any data to be collected to provide for a complete Newly-Identified Release Report, as specified below and shall contain a schedule for implementation of the work plan which is predicated on the date of Departmental approval of the plan.

- C. The Newly-Identified Release Work Plan will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Corrective Action Condition XII. The Permittee shall complete implementation in accordance with the schedule contained in the approved plan.

- D. The Permittee shall submit a Newly-Identified Release Report to the Department and EPA according to the schedule specified in the approved Newly-Identified Release Work Plan. The Newly-Identified Release Report shall present and discuss the information obtained during implementation of the approved Newly-Identified Release Work Plan. At a minimum, the report shall provide the following information for each newly-identified release:
 - 1. The location of the newly-identified release in relation to other SWMU(s);
 - 2. The general dimensions of the release;
 - 3. The period during which the release is suspected to have occurred;
 - 4. The physical and chemical properties of all wastes that have been determined to comprise the release;
 - 5. The results of any sampling and analysis conducted;
 - 6. Past and present operating practices near and at the location of the release;
 - 7. Previous uses of the area(s) occupied near and at the location of the release;
 - 8. Amounts of waste handled near and at the location of the release; and
 - 9. Drainage areas and/or drainage patterns near and at the location of the release.

- E. The Newly-Identified Release Report will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Corrective Action Condition XII. Based on the findings of the report and any other available information, the Department will determine the need for further investigation, including stabilization or a RCRA Facility Investigation.

IV. Stabilization

- A. If the Permittee becomes aware of a situation that may require stabilization measures to protect human health or the environment, the Permittee shall notify the Department and EPA within twenty-four (24) hours of the time the Permittee becomes aware or should have become aware of the situation.
- B. If during the course of any activity initiated under this Permit, the Permittee or the Department determines that a release or potential release of hazardous waste, including hazardous constituents, poses a threat to human health or the environment, the Department may require stabilization measures to slow or stop the further spread of contamination until final corrective action measures can be implemented. The Department will determine the specific action(s) that must be taken to implement stabilization, including potential permit modifications and the schedule for implementing the stabilization requirements and will inform the Permittee of decisions regarding the action(s) in writing.
- C. If at any time the Permittee determines or should have known that the stabilization program is not effectively limiting or stopping the further spread of contamination, the Permittee shall notify the Department in writing no later than ten (10) days after such a determination is made. The Department may require that the stabilization program be revised to make it effective in limiting or stopping the spread of contamination; or that final corrective action measures are required to remediate the contaminated media.

V. RCRA Facility Investigation (RFI) Work Plan

- A. If the Department determines that additional investigations are needed, the Department may require the Permittee to prepare and submit for approval an RFI Work Plan. The Permittee shall submit an RFI Work Plan to the Department and EPA within sixty (60) days of the notification of the requirement to conduct an RFI Work Plan. The RFI Work Plan shall be designed to investigate releases of hazardous waste, including hazardous constituents, to all appropriate media of concern including soil, sediment, bedrock, groundwater, surface water, and/or air. In order to substantiate future corrective action decisions, the RFI Work Plan shall contain provisions which are sufficient to meet the following objectives and shall contain a schedule for implementation of the work plan which is predicated on the date of Departmental approval of the plan:

1. Full characterization of the nature, vertical and horizontal extent, and rate of migration of releases of hazardous waste and/or hazardous constituents from SWMUs and AOCs, or groups of SWMUs at the facility and the actual or potential receptors of such releases; and
 2. Collection of any other pertinent data which may be utilized to substantiate future corrective action decisions.
- B. The RFI Work Plan shall be appropriate for site-specific conditions and shall be consistent with and address all applicable investigation elements described in the most recent version (currently May 1989) of the EPA guidance document entitled, RCRA Facility Investigation Guidance; EPA 530/SW-89-031. At a minimum, the RFI Work Plan shall detail all proposed activities and procedures to be conducted at the facility, a description of current conditions, the schedule for implementing and completing such investigations, and for submission of reports (including the final RFI Report), the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI.
- C. The RFI Work Plan shall include a Quality Assurance Project Plan (QAPP). The QAPP shall present the policies, organization, objectives, functional activities, and specific quality assurance and quality control activities designed to achieve the data quality goals of the RFI. It shall include the RFI objectives, sampling procedures, analytical methods, field and laboratory quality control samples, chain-of-custody procedures and data review, validation and reporting procedures.
- D. The Permittee shall prepare and maintain a Health and Safety Plan during the project that assures the RFI activities are conducted in a manner that is protective of human health and the environment.
- E. Due to the complexity of defining the extent of contamination, the Permittee may be required to use a phased approach that requires the submittal of supplemental RFI Work Plans.
- F. The RFI Work Plan(s) will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Corrective Action Condition XII. The Permittee shall complete implementation in accordance with the schedules contained in the approved plan(s).

VI. RCRA Facility Investigation (RFI) Report

- A. The Permittee shall submit a RFI Report to the Department and EPA according to the schedule contained in the approved RFI Work Plan. The RFI Report shall present all information gathered under the approved RFI Work Plan along with a brief facility description and map showing the property boundary and all SWMUs/AOCs. The RFI Report must contain adequate information to support further corrective action decisions at the facility. Information contained in the RFI Report shall be presented in a format that is consistent with Section 5. of the most recent version (currently May 1989) of the EPA Publication entitled, RCRA Facility Investigation Guidance; EPA 530/SW-89-031.
- B. The RFI Report shall provide an interpretation of the RFI information gathered, supported with documentation, to enable the Department to determine whether additional stabilization and/or a Corrective Measures Study may be necessary. The RFI Report shall describe the procedures, methods, and results of all investigations of SWMUs/AOCs and associated releases, including, but not limited to, the following:
1. Characterization of the nature, concentration(s), horizontal and vertical extent, and direction/rate of movement of releases from SWMUs/AOCs at the facility;
 2. Characterization of the environmental setting of the facility, including:
 - a. Hydrogeological conditions;
 - b. Climatological conditions;
 - c. Soil and bedrock characteristics;
 - d. Surface water and sediment quality; and
 - e. Air quality and meteorological conditions.
 3. Characterization of SWMUs/AOCs from which releases have been or may be occurring, including unit and waste characteristics;

4. Descriptions of human and environmental receptors and associated risks to the receptors which are, may have been, or, based on site-specific circumstances, could be exposed to release(s) from SWMUs/AOCs;
 5. Assessment of potential risks to the human and environmental receptors exposed to release(s) from SWMUs/AOCs;
 6. Extrapolations of future contaminant movement including description of contaminant fate and transport mechanisms, and pathways for human and environmental exposure;
 7. Laboratory, bench-scale, pilot-scale and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies, or other technologies that may be appropriate in implementing remedies at the facility;
 8. Statistical analyses to aid in the interpretation of data;
 9. Results of any stabilization measures previously implemented; and
 10. Evaluation of data quality which may affect the nature and scope of a Corrective Measure Study as well as the evaluation of corrective measures alternatives thereunder (e.g., identification of any potential bias in the RFI data, and documentation of its precision, accuracy, representativeness, completeness, comparability, validation, etc.)
- C. The RFI Report will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Corrective Action Condition XII. After review of the RFI Report, if the Department determines that the objectives of the RFI have not been met, the Department may require additional investigation. Upon approval of the RFI Report by the Department, the Department shall advise the Permittee as to the next step in the corrective action process that may include submittal of a Corrective Measures Study Work Plan pursuant to Corrective Action Condition VII.

VII. Corrective Measures Study (CMS) Work Plan

- A. If the Department determines that there has been a release of hazardous waste and/or hazardous constituents from a SWMU and/or AOC that may present a threat to human health or the environment, the Department may require a CMS and will

notify the Permittee in writing of this decision. This notice will identify the hazardous constituent(s) of concern and may specify remedial alternatives to be evaluated by the Permittee during the CMS.

- B. The Department may require the Permittee to evaluate, as part of the CMS, one or more specific potential remedies. These remedies may include a specific technology or combination of technologies that, in the Department's judgment, may be capable of achieving standards for protection of human health and the environment.
- C. The Permittee shall submit a CMS Work Plan to the Department and EPA within forty-five (45) days of notification of the requirement to conduct a CMS. The CMS Work Plan shall be consistent with guidance contained in the EPA document entitled: RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A. At a minimum, the CMS Work Plan shall provide the following information and shall contain a schedule for implementation of the work plan which is predicated on the date of Departmental approval of the plan:
1. A description of the general approach to investigating and evaluating potential remedies;
 2. A definition of the specific objectives of the study;
 3. A description of the remedies which will be studied;
 4. A description of those potential remedies that were preliminarily considered, but were dropped from further consideration including the rationale for elimination;
 5. The specific plans for evaluating remedies to ensure compliance with remedy standards;
 6. The schedules for conducting the study and submitting a Corrective Measures Study Report;
 7. The proposed format for the presentation of information; and

8. Laboratory, bench-scale, pilot-scale and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies, or other technologies that may be appropriate in implementing remedies at the facility.
- D. The Department will review the CMS Work Plan in accordance with the procedures set forth in Review and Approval Procedures, Corrective Action Condition XII. The Permittee shall complete implementation in accordance with the schedule contained in the approved plan.

VIII. Corrective Measures Study (CMS) Report

- A. The Permittee shall submit a CMS Report to the Department and the EPA according to the schedule contained in the approved CMS Work Plan. The CMS Report shall present all information gathered under the approved CMS Work Plan and shall be consistent with guidance contained in the EPA document entitled, RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A. The CMS Report shall summarize the results of the investigations for each remedy studied and of any bench-scale or pilot tests conducted. The CMS Report shall include, but not be limited to, the following information:
1. Evaluation of performance, reliability, ease of implementation, and potential impacts of each remedy studied, including safety impacts, cross media impacts, and control of exposure to any residual contamination;
 2. Assessment of the effectiveness of each remedy in achieving adequate control of sources and cleanup of the hazardous waste or hazardous constituents released from the SWMU(s)/AOC(s);
 3. Assessment of the time required to begin and complete each remedy;
 4. Estimation of the costs of implementing each remedy;
 5. Recommendation of remedy and rationale for selection; and
 6. Assessment of institutional requirements, such as state or local permit requirements, or other environmental or public health requirements which may substantially affect implementation of the remedy.

- B. The CMS Final Report shall contain adequate information to support the Department in the remedy approval decision-making process.
- C. The CMS Final Report will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Corrective Action Condition XII. Upon approval thereof by the Department, the Department will approve a final remedy as specified in Corrective Action Condition IX.

IX. Final Remedy Approval

Following approval of the CMS Final Report, the Department will prepare a Statement of Basis (SB) summarizing the corrective measures alternatives that were evaluated, including justification for the final remedy proposed by the Permittee.

Following preparation of the SB by the Department, a permit modification will be initiated pursuant to 40 CFR 270.41 or 270.42(c), as applicable, to implement the final remedy.

Upon completion of the public participation activities associated with the permit modification to implement the proposed final remedy, the Department will approve a final remedy that will: 1) be protective of human health and the environment; 2) control and/or eliminate the source(s) of contaminants so as to reduce or eliminate, to the maximum extent practicable, further contaminant releases, exposures or migration that might pose a threat to human health and the environment; and 3) meet all applicable federal, state, and local laws and regulations.

X. Annual Progress Reports

- A. In the event the Permittee is required to perform corrective action, the Permittee shall submit to the Department and EPA signed Annual Progress Reports summarizing all permitted corrective action activities undertaken during each calendar year. Each Annual Progress Report shall be due to the Department by March 1 of each calendar year for the preceding calendar year.

The Annual Progress Reports shall continue to be submitted until such time as the Permittee's corrective action activities (including operation, maintenance and monitoring activities as detailed within Corrective Action Condition II.) are complete. The Annual Progress Reports shall include the following information for the time period being reported:

1. A description of the work completed;

2. Summaries of all findings, including summaries of laboratory data;
 3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;
 4. Projected work for the next reporting period; and
 5. Any instances of noncompliance with the corrective action requirements of this Permit not otherwise required to be reported elsewhere in this Permit.
- B. If the Department determines that further corrective action is required pursuant to Corrective Action Conditions II. through X., the frequency of submittal of progress reports may increase. If an increase in reporting frequency is necessary, the Department will provide written notification of the new reporting frequency to the Permittee.

As part of any additional corrective action activities, undertaken pursuant to this Permit, detailed technical information required to be submitted as part of stabilization, RFI and/or CMS reports and work plans need not be reproduced as part of the Permittee's Progress Reports.

- C. Copies of other reports (e.g., inspection reports), information or data shall be made available to the Department and EPA upon request.

XI. Supplemental Data

All raw data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data, and other supporting information gathered or generated during activities undertaken pursuant to this Permit shall be maintained by the Permittee during the term of this Permit, including the term of any reissued permits.

XII. Review and Approval Procedures

Following submission of any plan or report pertaining to corrective action activities (excluding the Annual Progress Reports), the Department will review and either approve or disapprove the plan or report in writing. If the Department does not approve the plan or report, the Department will notify the Permittee in writing of the plan's or report's deficiencies and specify a due date for submittal of a revised plan or report.

If the Department does not approve the revised plan or report, the Department may modify the plan or report and notify the Permittee of the modifications. The plan or report as modified by the Department is the approved plan or report.

If the Permittee disagrees with any Department-initiated plan or report modifications, and a mutually acceptable resolution of such modifications cannot be informally reached, any appeal of the Department-initiated modifications shall be filed in accordance with Section 260.400, RSMo, and 10 CSR 25-8.

FACILITY SUBMISSION SUMMARY

TABLE 7 - Summary of the Planned Submittal Requirements Pursuant to this Permit

SUBMITTAL REQUIREMENTS	DUE DATE	PERMIT CONDITION
Biennial Report with information required by 40 CFR 264.75	March 1 of each even numbered calendar year.	General Permit Condition I.
Consolidated Permit Application	Within sixty (60) calendar days of effective date of permit.	Schedule of Compliance Item I.
Certification that Permittee has read and understands this Permit	Within sixty (60) calendar days of effective date of permit.	Schedule of Compliance Item I.
Check or money order for \$9000 and all outstanding engineering review costs.	Within sixty (60) calendar days of effective date of permit.	Schedule of Compliance Item I.

TABLE 8 - Summary of the contingent corrective action submittal requirements pursuant to the Corrective Action Conditions of this Permit.

CONTINGENT SUBMITTAL REQUIREMENTS	DUE DATE	CORRECTIVE ACTION CONDITION
Written Notification of Newly-Identified SWMU(s) and AOC(s)	No later than fifteen (15) days after discovery.	II.A.
SWMU/AOC Assessment Work Plan	Within thirty (30) calendar days of notice by the Department that a work plan is required.	II.B.
SWMU/AOC Assessment Report	In accordance with the schedule in the approved SWMU/AOC Assessment Work Plan.	II.D.

CONTINGENT SUBMITTAL REQUIREMENTS	DUE DATE	CORRECTIVE ACTION CONDITION
Written Notification of Newly-Identified Releases from SWMU(s) and AOC(s)	No later than fifteen (15) days after discovery.	III.A.
Newly-Identified Release Work Plan	Within thirty (30) calendar days of notice by the Department that a work plan is required.	III.B.
Newly-Identified Release Report	In accordance with the schedule in the approved Newly-Identified Release Work Plan.	III.D.
Stabilization Notification	Within twenty-four (24) hours of discovery of need for stabilization.	IV.A.
Stabilization Not Effective Notification	Within ten (10) calendar days of determination by Permittee.	IV.C.
RCRA Facility Investigation (RFI) Work Plan	Within sixty (60) calendar days of notice by the Department that a RFI Work Plan is required.	V.A.
RCRA Facility Investigation (RFI) Report	In accordance with the schedule in the approved RFI Work Plan.	VI.A.
Corrective Measures Study (CMS) Report	In accordance with the schedule in the approved CMS Work Plan.	VIII.A.
Annual Progress Report	March 1 of each calendar year.	X.

ATTACHMENT A

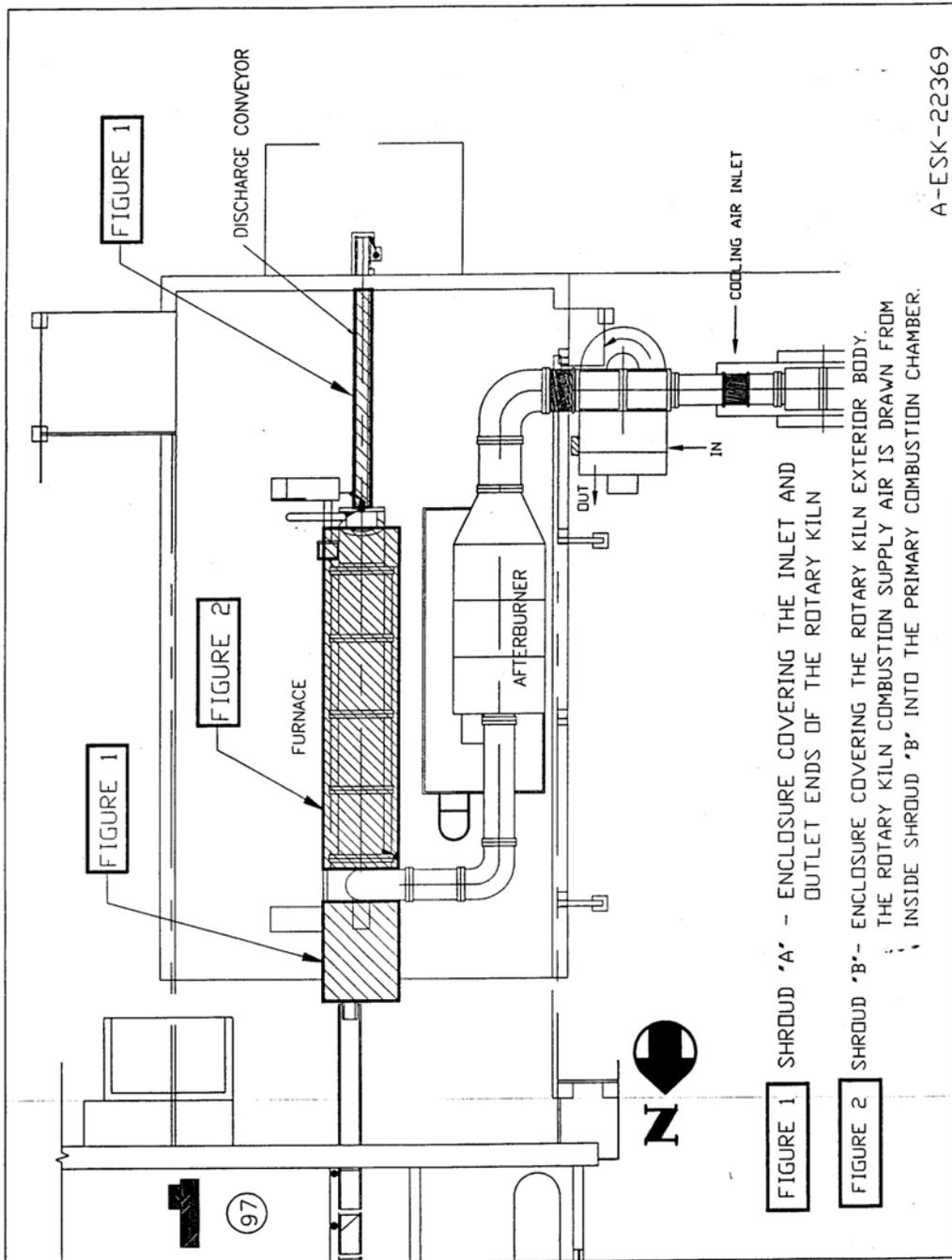


FIGURE 1 SHROUD 'A' - ENCLOSURE COVERING THE INLET AND
 OUTLET ENDS OF THE ROTARY KILN

FIGURE 2 SHROUD 'B' - ENCLOSURE COVERING THE ROTARY KILN EXTERIOR BODY.
 THE ROTARY KILN COMBUSTION SUPPLY AIR IS DRAWN FROM
 INSIDE SHROUD 'B' INTO THE PRIMARY COMBUSTION CHAMBER.

A-ESK-22369
 FILE NO. 097-2369

ATTACHMENT B
Calculation of Trinitrotoluene (TNT) Equivalent

Basis: Calculation of the TNT equivalent feed rate is used to convert explosive potential to a common value. This value is used to ensure the explosive potential of any waste is equal to or less than the demonstrated 110.1 lbs/hr. The Permittee demonstrated fugitive emissions could be controlled when processing 20mm M56 A3 projectiles at this TNT equivalent rate in the October 16, 1996, fugitive emissions test.

Calculation: The TNT equivalent is calculated for each explosive and propellant mix. Percent TNT values for each component are used where available. If a percent TNT value is not available, the weight of this component is assumed to be the component with the highest TNT equivalent. Percent TNT values are obtained from Brisance/Power TNT equivalent test methods. These methods measure the explosive potential of the compound. (In the situation the methods report different explosive potential values, the largest explosive potential is used.)

References: Specific Product Operating Guides required by Special Permit Condition II.G. *"Encyclopedia of Explosives and Related Items"* Volume 2, Pages B265 to B300. (Library of Congress Catalogue Card Number: 61-61759)

Sample Calculation: 5.56mm M193 (SCAMP) Ball Cartridges

Source: Specific Product Operating Guide Revised 2/9/98 Primer (FA-956)

0.15 lbs/hr antimony sulfide
0.07 lbs/hr aluminum powder
0.32 lbs/hr barium nitrate
0.37 lbs/hr lead styphnate
0.04 lbs/hr tetracene
0.05 lbs/hr pentaerythritol trinitrate (PETN)

Antimony sulfide, aluminum powder, and barium nitrate are assumed to be PETN. This equals a total of 0.54 lbs/hr (assumed to be PETN).

The remaining components, 0.37 lbs/hr lead styphnate and 0.04 lbs/hr of tetracene have percent TNT values available so the actual feed rate of each component is used.

Propellant Powder (WC-844)
6.91 lbs/hr nitroglycerin
57.52 lbs/hr nitrocellulose
0.17 lbs/hr calcium carbonate
0.35 lbs/hr sodium sulfate
0.78 lbs/hr diphenylamine
3.11 lbs/hr dibutylthalate
0.28 lbs/hr graphite

Graphite, dibutylthalate, diphenylamine, sodium sulphate, and calcium carbonate are assumed to be nitroglycerin resulting in an additional feed rate of 4.69 lbs/hr for nitroglycerin.

Percent TNT equivalent values for nitrocellulose and nitroglycerin are available so the actual feed rate of each component, 57.52 lbs/hr of nitrocellulose, and 6.91 lbs/hr of nitroglycerin are used.

Percent TNT values:

Source: "*Encyclopedia of Explosives and Related Items*" Volume 2, Pages B265 to B300. (Library of Congress Catalogue Card Number: 61-61759)

dinitrotoluene:	77%
lead styphnate:	87%
nitrocellulose:	147%
nitroglycerin:	185%
PETN:	225%
tetracene:	70%
lead azide:	87%
RDX:	218%
HMX:	170%
ammonium nitrate:	79%

Percent TNT Equivalent (lbs/hr):

$2.25 (0.54 \text{ lbs/hr PETN}) + 1.47 (57.52 \text{ lbs/hr nitrocellulose}) + 1.85 (6.91 \text{ lbs/hr nitroglycerin}) + 1.85 (4.69 \text{ lbs/hr nitroglycerin worst case}) + 0.87 (0.37 \text{ lbs/hr lead styphnate}) + 0.70 (0.04 \text{ lbs/hr tetracene}) = 107.6 \text{ lbs/hr TNT equivalent}$