

**MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT  
PART I  
PERMIT NUMBER: MOD985798164**

**PERMITTEE**

Owner: ICI Explosives Environmental Company c/o ICI Americas, Uniqema Corp Center 1000 Uniqema Blvd. New Castle, DE 19720-2790	Operator: ICI Explosives Environmental Company P.O. Box 1386 Joplin, MO 64802
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**FACILITY LOCATION**

3078 County Road 180  
Joplin, MO 64802  
Jasper County  
North Latitude - 37° 06' 16"  
West Longitude - 94° 22' 49"

**FACILITY DESCRIPTION**

ICI Explosives Environmental Company (ICIEEC) is a reactive waste management company. ICIEEC provides analysis, packaging and transportation of reactive wastes to the ICIEEC facility located near Joplin, Missouri. ICIEEC operates an incinerator for the sole purpose of disposing of reactive wastes. The explosives manufacturing industry, a variety of other manufacturing companies, users of explosive devices and materials, and government agencies, such as the Department of Defense, generate the reactive wastes, which are accepted for treatment by incineration.

**PERMITTED ACTIVITIES**

This Permit allows for the storage, miscellaneous treatment and incineration of "characteristic" hazardous waste as well as storage of various "F, K, P and U" listed hazardous wastes as specified in the Part A application. The hazardous wastes include explosive/reactive materials, explosive and energetic devices, propellants, pharmaceutical materials containing nitroglycerin,

ammunition and materials contaminated with explosive/reactive waste. The Permit also contains contingent corrective action conditions to address releases to the environment from Solid Waste Management Units and/or Areas of Concern as necessary and appropriate.

EFFECTIVE DATES OF PERMIT: October 23, 2002 to October 23, 2012

OCT 23 2002

[Original signed by Stephen M. Mahfood]

\_\_\_\_\_  
Date

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Stephen M. Mahfood, Director  
DEPARTMENT OF NATURAL RESOURCES

**TABLE OF CONTENTS**

INTRODUCTION ..... 4

DEFINITIONS..... 8

SCHEDULE OF COMPLIANCE..... 10

STANDARD PERMIT CONDITION ..... 13

GENERAL PERMIT CONDITIONS..... 14

SPECIAL PERMIT CONDITIONS ..... 15

    I. Storage in Containers [40 CFR Part 264 Subpart I] ..... 15

    II. Miscellaneous Units [40 CFR Part 264 Subpart X]..... 18

    III. Incinerator Requirements [40 CFR Part 264 Subpart O]..... 25

    IV. Off-Site Requirements ..... 41

    V. Waste Minimization..... 43

    VI. Seismic Evaluation Requirements [10 CSR 25-7.270(2)(B)4.]..... 43

    VII. Air Emission Standards for Tanks, Surface Impoundments, and Containers  
        [10 CSR 25-7.264(1)] ..... 43

CORRECTIVE ACTION CONDITIONS ..... 44

    I. Identification of Solid Waste Management Units (SWMUs) and Areas of  
        Concern (AOCs) [40 CFR 264.101] ..... 44

    II. Notification Requirements for, and Assessment of, Newly Identified  
        SWMU(s) and Areas of Concern (AOCs) ..... 45

    III. Notification Requirements for, and Assessment of, Newly Identified  
        Releases From Previously Identified Solid Waste Management Units  
        (SWMUs) and Areas of Concern (AOCs) ..... 47

    IV. Interim/Stabilization Measures ..... 48

    V. RCRA Facility Investigation (RFI) Work Plan ..... 49

    VI. RCRA Facility Investigation (RFI) Report..... 50

    VII. Corrective Measures Study (CMS) Work Plan..... 52

    VIII. Corrective Measures Study (CMS) Report..... 53

    IX. Final Remedy Approval..... 54

    X. Annual Progress Reports..... 55

    XI. Supplemental Data ..... 56

    XII. Review and Approval Procedures..... 56

## **INTRODUCTION**

After public notice in accordance with 10 CSR 25-8.124 and 40 CFR Part 124 and review of the ICI Explosives Environmental Company'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 MOD985798164 to the ICI Explosives Environmental Company (hereafter referred to 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 January 16, 2001, and all revisions dated March 7, 2001, May 25, 2001, August 3, 2001, August 22, 2001, November 5, 2001 and December 5, 2001, the final health profile dated January 2, 2002, 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 U.S. EPA Region VII office in Kansas City, Kansas, and the Joplin Public Library, Joplin, Missouri.

The Permittee's hazardous waste facility is located at 3078 County Road 180, Joplin, Missouri. The Permittee is permitted to operate the container storage facilities, miscellaneous treatment 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 October 23, 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 (10) 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 October 23, 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. The Permittee shall update the facility's financial assurance instrument to reflect the cost estimate in Section 14 of the approved Permit application within sixty (60) calendar days after the effective date of this Permit. The Permittee shall submit the updated financial assurance instrument to the Department for approval within fifteen (15) days of securing the instrument.
- III. The Permittee shall submit data necessary to perform a risk assessment in accordance with the 1998 draft Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities upon request by the Department.

- IV. 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.
- V. Within sixty (60) calendar days after the effective date of this Permit, the Permittee shall submit a Class 1 permit modification with prior directors approval to the department to add a “ramp-up” procedure to the permit. “Ramp-up” is defined as a gradual increase in feed rate used to evaluate the response of the incinerator to a new waste. The “ramp-up” procedure must include procedures used in the event that the “ramp-up” reveals the need for revisions to the SOP or “ramp-up” procedure.
- VI. Within sixty (60) calendar days after the effective date of this Permit, the Permittee shall make the necessary modifications to the operation, procedures, control system, data logger and check lists to be in compliance with any permit conditions that are new or modified as compared to the July 18, 1991, Hazardous Waste Mangement Facility Treatment and Storage Permit and subsequent modification of that permit.

**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. 5<sup>th</sup> Street  
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**

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.

#### **B. Waste Quantities**

The Permittee shall store only the following quantities of hazardous wastes in containers according to this Permit:

1. Storage at each of the four (4) magazines shall not exceed the lessor of:
  - a. 324 fifty-five gallon drums that contain free liquids; or
  - b. 17,820 gallons of free liquids; or
  - c. 100,000 pounds net explosive weight; or
  - d. 284 cubic yards in total.
2. Storage at each of the Storage/Feed Handling Building and the Feed Room shall not exceed the lessor of:
  - a. Twenty 55 gallon drums that contain free liquids; or
  - b. 1,100 gallons of free liquids; or
  - c. Four (4) hours supply of hazardous waste that can be processed in the pre-processing operations.

#### **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 and EX numbers to the container for waste that has been pre-processed in the SFHB and returned to storage prior to being fed to the kiln. [10 CSR 25-7.264(2)(I)2.]

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. Only DOT approved containers shall be used for storage of hazardous waste 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. 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, except for visual inspection of containers not containing free liquids where container size prohibits the inspection of center containers when palletized provided the outermost containers are clearly labeled as to the number of containers on the pallet.
3. Class I 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. Miscellaneous Units [40 CFR Part 264 Subpart X]

The term "miscellaneous unit" is used to address the devices and processes to be located in the building identified as the "Storage/Feed Handling Building." The processes are intended to limit physical size, alter configuration, reduce the explosive nature, or repackage waste into appropriate units for introduction into the incinerator. The Storage/Feed Handling building is also subject to the requirements in Special Permit Condition I.

A. Waste Identification [40 CFR 264.601]

The Permittee shall treat only the hazardous wastes identified in the Part A Permit Application. All treatment processes, other than incineration, performed in

accordance with this Permit shall be subject to the terms of Special Permit Condition II and shall only be performed in the "Storage/Feed Handling Building."

B. Waste Quantities [40 CFR 264.601]

1. The Permittee shall store and treat only the amount of hazardous waste that will be processed in the pre-processing operations within a four (4) hour period at the Storage/Feed Handling Building. At any given time, the Permittee may only treat a total volume of hazardous waste that is permitted to be incinerated at the facility's incinerator within a four (4) hour time period.
2. The Permittee shall not place more than 2,400 pounds net explosive weight of explosive materials in the Storage/Feed Handling Building. While hazardous waste or hazardous waste residues remain in the Storage/Feed Handling Building, the Permittee shall not place more than 425 pounds of Class 1.1 explosives within an individual bay during treatment operations within that bay.
3. The Permittee shall only store hazardous waste in the Storage/Feed Handling Building prior to or after treatment. Hazardous waste shall not be kept at the Storage/Feed Handling Building for more than eight (8) hours. Hazardous waste shall be returned to a permitted storage unit or taken to the Feed Room prior to exceeding the eight (8) hour storage limit.

C. Containment [40 CFR 264.601 and 40 CFR 264.175]

The Permittee shall design and operate containment systems for the treatment 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 II.C.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.
  6. The Permittee shall comply with the siting and construction requirements contained in the "DoD Contractors' Safety Manual for Ammunition and Explosives."
- D. Operating Requirements [40 CFR 264.601 and 10 CSR 25-7.264(2)(X)1.]
1. The Permittee shall comply with the procedures contained in the "DoD Contractors' Safety Manual for Ammunition and Explosives".
  2. The Permittee shall not place hazardous waste or treatments reagents in the treatments units if they could cause any component of that treatment unit to rupture, leak or otherwise fail.
  3. The Permittee shall ensure operation of all automatic equipment that prevents spills and overflows from a treatment device or containment system.
  4. The Permittee shall use only the mechanical treatment devices that are specified in Appendix 4-2 of the approved Permit application for feed preparation of hazardous waste.
  5. The Permittee shall only perform feed preparation activities in the Storage/Feed Handling Building as detailed in the approved Permit application.
  6. The Permittee shall place the date and time on each replaceable filter for air emissions at the time it is installed and replace all air filters at a

frequency determined by performance tests or engineering calculations that demonstrates that the emissions limitations found at 40 CFR 264.1032 are achieved. Alternately control devices demonstrating the limitations found at 40 CFR 264.1032 may also be utilized.

E. Response to Leaks or Spills [40 CFR 264.601 and 40 CFR 264.196]

1. In the event of a leak or a spill from the treatment system, or from a secondary containment system, or if a system becomes unfit for continued use, the Permittee shall remove the system from service immediately and complete the following actions:

a. Stop the flow of hazardous waste into the system, remove existing waste and inspect the system to determine the cause of the release.

b. Remove waste from the system within twenty-four (24) hours of the detection of the leak to prevent further release and to allow inspection and repair of the system. If the Permittee finds that it will be impossible or impractical to meet this time period, the Permittee shall notify the Director and demonstrate that the longer time period is required.

If the collected material is a hazardous waste, it must be managed in accordance with all applicable requirements of 40 CFR Parts 262, 263, 264, 266 and 270. The Permittee shall note that if the collected material is discharged through a point source to public waters or to a publicly owned treatment works, it is subject to requirements to the Clean Water Act.

c. The Permittee shall immediately conduct a visual inspection of all releases to the environment and based on that inspection: 1) prevent further migration of the leak or spill to soils or surface water; 2) remove and properly dispose of any visible contamination of the soil or surface water; and 3) determine the extent of contamination to the soil or surface water.

2. In the event of equipment failure:

a. For a release caused by a spill that has not damaged the integrity of the treatment system, the Permittee shall remove the released waste and make any necessary repairs to fully restore the integrity of the system before returning the treatment system to service.



4. The Permittee shall document compliance with Special Permit Condition II.F. and record and maintain the information in the operating record for the facility.

G. Recordkeeping and Reporting [40 CFR 264.602]

1. The Permittee shall report to the Director, within twenty-four (24) hours of detection, when a leak or spill occurs from the treatment system or secondary containment system to the environment.
  - a. A leak or spill of one (1) pound or less of hazardous waste, that is immediately contained and cleaned-up within four (4) hours, need not be reported.
  - b. Releases that are contained within a secondary containment system and cleaned up within twenty-four (24) hours of release need not be reported.
2. Within thirty (30) days of detecting a release to the environment from the treatment system or secondary containment system, the Permittee shall report the following information to the Director:
  - a. Likely route of migration of the release;
  - b. Results of any monitoring or sampling conducted in connection with the release. If the Permittee finds it will be impossible to meet this time period, the Permittee shall provide the Director with a schedule of when the results will be available. This schedule must be provided before the required thirty (30) day submittal period expires;
  - c. Proximity of downgradient drinking water, surface water, and populated areas;
  - d. Description of response actions taken or planned; and
  - e. Description of countermeasures needed to preclude migration to or in any and all media including but not limited to information specified in all provisions of 40 CFR 264.601(a), (b) or (c) as deemed appropriate by the Director.

3. The Permittee shall submit to the Director all certifications of major repairs being consistent with the specifications found in the Permit application to correct leaks within seven (7) days from returning the treatment system to use.
  4. The Permittee shall obtain, and keep on file at the facility, the written statements by those persons required to certify the design and installation of the treatment system.
  5. The Permittee shall keep on file at the facility the written assessment of the system's integrity.
  6. The Permittee shall maintain at the facility a record of the results of leak tests and integrity tests conducted, in accordance with Special Permit Condition II.C.
- H. Special Requirements for Ignitable or Reactive Wastes [40 CFR 264.601 and 40 CFR 264.17]
1. The Permittee shall not place ignitable or reactive waste in the treatment system or in the secondary containment system, unless the procedures specified in the approved Permit application are followed.
  2. The Permittee shall comply with the requirements for the maintenance of protective distances between the waste management areas and any public ways, streets, alleys, or an adjoining property line that can be built upon, as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code."
- I. Special Requirements for Incompatible Wastes [40 CFR 264.601 and 40 CFR 264.17]
1. The Permittee shall not place incompatible wastes, or incompatible wastes and materials, in the same treatment system or the same secondary containment system, unless the procedures that are specified in the "DoD Contractors' Safety Manual for Ammunition and Explosives" are followed.
  2. The Permittee shall not place hazardous waste in a treatment system that has not been decontaminated and that previously held an incompatible waste or material, unless the procedures specified in the "DoD Contractors' Safety Manual for Ammunition and Explosives" are followed.

3. The Permittee shall not place incompatible wastes, or incompatible wastes and materials, in the same treatment system or the same secondary containment system, unless such action is in compliance with the requirements of 40 CFR 264.17(b).

J. Closure [40 CFR 264.601 and 10 CSR 25-7.264(2)(G)]

At closure of a miscellaneous unit, the Permittee shall remove or decontaminate all hazardous waste and hazardous residues from the miscellaneous unit, including, but not limited to: contaminated tank system components (liners, etc.), contaminated soils, and contaminated equipment and structures, and shall close in accordance with the Closure Plan in the approved Permit application. 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. The Closure Plan, closure activities, cost estimates for closure, and financial responsibility for the miscellaneous units shall meet all of the requirements specified in 40 CFR Part 264 Subparts G and H, 10 CSR 25-7.264(2)(G) and 10 CSR 25-7.264(2)(H).

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

A. Description of the Incinerator

The incinerator consists of a rotary kiln and a car bottom furnace with an air pollution control system consisting of a secondary combustor, a spray dryer, a baghouse, two induced draft fans and an exhaust stack. The rotary kiln is designed to incinerate configured munitions and bulk explosives. The car bottom furnace is used intermittently, while the rotary kiln is not operating, for treatment of large, unusual or irregular shaped metal pieces, and for incineration of contaminated waste materials such as rags, soiled uniforms, manufacturing wastes, and packaging materials.

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 Condition III. of this Permit. Modifications to the incinerator, 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 III.D., E., F., and G. on incinerating hazardous wastes in the incinerator, 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. The Permittee shall comply, as necessary, with the requirements for conducting a Site-Specific Risk Assessment. These requirements are found in the promulgation of the Final Standards for Hazardous Air Pollutants for Hazardous Waste Combustors at 64 FR 52828. Specifically the Site-Specific Risk Assessment is discussed in Part Three, Section IV and Part Five, Section XI.B.3. of the preamble to that final rule.

B. Waste Identification

1. The Permittee shall only incinerate hazardous waste identified in Section XIV. of the Part A application in the approved Permit application.

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. The Permittee shall not feed items such as munitions, fuzes, primers, signal devices, igniters, boosters, detonators, dynamite sticks and/or compounds or mixtures which will result in high order detonation or that will mass detonate into the car bottom furnace. Only wastes that are hazardous waste due to their contamination with hazardous constituents as defined in 40 CFR 261.3(b)(2) or reactive compounds shall be fed to the car bottom furnace. Waste containing free liquids shall be contained such that no release or leak occurs from the car bottom furnace.
3. The Permittee shall feed only hazardous waste that is solid or containerized fluid or absorbent in fiber-type containers no larger than 0.3 cubic feet into the rotary kiln.

C. Hazardous Waste Analysis [10 CSR 25-7.264(2)(O)1.]

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 III.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 III.E. may be "information" justifying modification, revocation, or reissuance of a Permit under 40 CFR 270.41.

E. Emission Standards [10 CSR 25-7.264(2)(O)]

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 in the rotary kiln and the car bottom furnace 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. hexachlorethane,
  - b. naphthalene, and
  - c. nitroglycerin.

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

TABLE 1 - Metal Emission Limits

Metal	Emission Limit (lb/hr)
Antimony	1.5
Arsenic	0.012
Barium	250
Beryllium	0.021
Cadmium	0.0286
Chromium	0.0043
Lead	0.46
Mercury	1.5
Silver	15
Thallium	1.5

4. 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 [40 CFR 264.345]

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 III.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 to the rotary kiln shall not exceed 600 pounds per hour and/or four (4) pounds per twenty-four (24) seconds. Explosive feed rate shall be calculated by summing the individual feed rates of propellants, explosives and pyrotechnics.
  - b. The feed rate to the car bottom furnace shall not exceed 10,005 pounds per charge or batch. The maximum burn-off rate for combustible items shall be 250 pounds per hour.
2. POHCs with a heat of combustion lower than hexachlorethane (i.e., 0.46 kilocalories per gram) shall not be fed to the incinerator. The individual POHC feed rates shall not exceed the rates in Table 2:

TABLE 2 - POHC Feed Rates

POHC	Kiln Feed Rate(lbs/hr)	Car Bottom Furnace Feed Rate (lbs/batch)
Hexachloroethane	96.27	23.46
Naphthalene	29.78	9.95

3. Hazardous waste feed rates shall be limited to an extent such that HCl emissions do not exceed 1.8 kilograms per hour (4 pounds per hour). When the chlorine feed rate exceeds four (4) pounds per hour, the following formula shall be used to calculate the soda ash feed rate in pounds per hour:

$$FR_{Na_2CO_3} = \frac{(MW_{Na_2CO_3}) * [(2 * MFR_S) + (1.1 * MFR_{Cl_2})]}{(2 * 0.65)}$$

Where  $FR_{Na_2CO_3}$  is the feed rate of the soda ash in pounds per hour,  $MFR_{Cl_2}$  is the molar feed rate of chlorine into the kiln in pound moles per hour,  $MFR_S$  is the molar feed rate of sulfur into the kiln in pound moles per hour and  $MW_{Na_2CO_3}$  is the molecular weight of soda ash in pounds per pound mole. The factors of two are to account for the stoichiometry, and the sixty-five percent (65%) is the soda ash utilization rate. The factor of 1.1 will allow an acceptable factor of safety to assure 99% HCl removal as required in 40 CFR 264.343(b). The chlorine feed rate shall not exceed 103 pounds per 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	Feed Rate(lbs/hr)
Arsenic	0.22
Beryllium	9.98
Cadmium	1.14
Chromium	8.39
Antimony	20.23
Barium	2,122
Lead	19.00
Mercury	15.10
Silver	2,122
Thallium	60.32

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 from the rotary kiln and car bottom furnace 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 incinerator.

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 rotary kiln, monitored as specified in Special Permit Condition III.G., shall not exceed 2,122 pounds per hour for any specific waste feed type.
- b. The rotary kiln temperature, monitored as specified in Special Permit Condition III.G., shall be maintained at no greater than 712°F and no less than 556°F, except as allowed in Special Permit Condition III.F.8. The Standard Operating Procedures (SOP) required by Special Permit Condition III.F.7. of this Permit shall specify the rotary kiln temperature limits for specific waste feed types that are fed to the rotary kiln.
- c. The rotary kiln rotation rate, monitored as specified in Special Permit Condition III.G., shall be maintained within an operating range of 0.5 to 4.5 revolutions per minute.
- d. The Permittee shall comply with the requirements of 40 CFR 264.345(d) to prevent fugitive emissions with the following three levels of pressure control, monitored as specified in Special Permit Condition III.G.:

- i. The pressure in the kiln's combustion chamber shall not exceed -0.1 inch w.c. relative to the air pressure in the shroud measured as a fifteen (15) second rolling average.
  - ii. The pressure in the shroud duct from the shrouds at both ends of the kiln shall not exceed -0.5 inch w.c. relative to the air pressure in the Kiln Containment Building.
  - iii. The pressure inside the Kiln Containment Building shall not exceed -0.1 inch w.c. relative to ambient air pressure.
- e. The combustion temperature in the secondary combustion chamber, monitored as specified in Special Permit Condition III.G., shall be maintained at no greater than 2,350°F and no less than 2,000°F.
- f. The soda ash feed rate to the spray dryer, monitored as specified in Special Permit Condition III.G., shall not be less than the feed rate specified by Special Permit Condition III.F.3. The SOP required by Special Permit Condition III.F.7. of this Permit shall specify the soda ash feed rate.
- g. The exit temperature of the spray dryer, monitored as specified in Special Permit Condition III.G., shall not exceed 400°F.
- h. The pressure drop across the spray dryer, monitored as specified in Special Permit Condition III.G., shall be maintained at no less than 0.0363 psi (1.0 inches w.c.).
- i. The pressure drop across the baghouse, monitored as specified in Special Permit Condition III.G., shall be maintained at no less than 0.2093 psi (5.8 inches w.c.) on an hourly rolling average basis and no less than 0.1552 psi (4.3 inches w.c.) on an instantaneous basis. The pressure drop across the baghouse, monitored as specified in Special Permit Condition III.G., shall be maintained at no greater than 0.435 psi (12 inches w.c.).
- j. 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 exit temperature of the spray dryer exceeds 400°F and waste feed is cut off.
  
- k. The high gas flow rate, monitored as specified in Special Permit Condition III.G., shall be no greater than 545,763 SCFH on an hourly rolling average basis and 586,430 SCFM on an instantaneous basis.
  
- l. The carbon monoxide concentration in the stack exhaust gas, monitored as specified in Special Permit Condition III.G., shall not exceed 100 ppmv corrected to seven percent (7%) oxygen on a dry basis over a one-hour rolling average with sample data collected at a frequency no greater than or equal to one (1) per fifteen (15) seconds.
  
- m. The 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 III.F.5.a.-m. 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 III.F.5.a.-m. above, describing the parameters and limits that shall activate the automatic waste feed cut-off mechanism as described in the approved Permit application.

In the case of a malfunction of the automatic waste feed cut-off system, the Permittee shall perform a manual shut down of the incinerator. The Permittee shall not restart the incinerator until the problem causing the malfunction of the automatic waste feed cut-off as well as the parameter of exceedance has been located and corrected.

TABLE 4 - Automatic Waste Feed Cut-off Limits

Operating Parameter	Cut-off Limit	Location of Monitoring Device
Maximum Hazardous Waste Feed	2122 Pounds per Hour *	Feed Room
Rotary Kiln Temperature	<556°F and >712°F *	Duct After Retort
Rotary Kiln Rotation	No Motion	Rotary Kiln
Minimum Rotary Kiln Differential Pressure	>-0.1" wc in combustion chamber >-0.5" wc in shroud duct >-0.1" wc in kiln cont. building	Rotary Kiln Shrouds Kiln Containment Building
Secondary Combustion Temp.	<2000°F and >2350°F	Secondary Combustion Chamber
Spray Dryer Solution Rate	<Rate Per Specific Waste *	Soda Ash Feed
Spray Dryer Exit Temperature	>400°F	Duct After Spray Dryer
Spray Dryer Differential Pressure	<0.0363 psi	Duct Before and After Spray Dryer
Baghouse Differential Pressure	<0.2093 psi (HRA) <0.1552 psi (Instantaneous) >0.435 psi	Duct Before and After Baghouse
Baghouse Bypass Damper	Open	Bypass Damper
High Gas Flow Rate	>545,763 SCFH (HRA) >586,430 SCFH (Instantaneous)	Stack
CO	>100 ppmv (HRA)	Stack
Discharge and Charge Conveyors Motion Sensors	No Motion	Discharge and Charge Conveyor
Rotary Kiln Burner Flame Out	Loss of Flame	Retort Burner
Secondary Combustor Flame Out	Loss of Flame	Secondary Combustor Burner

\* NOTE: The maximum hazardous waste feed, rotary kiln temperature and soda ash feed rate are waste-specific and shall be in accordance with the Standard Operating Procedures required by Special Permit Condition III.F.7.

6. Specific Requirements for the Car Bottom Furnace

While treating hazardous wastes in the car bottom furnace the Permittee shall comply with the following additional requirements.

- a. Prior to introducing wastes into the car bottom furnace, the car bottom furnace temperature must be below 300°F.
- b. For the treatment known as flashing to begin, the hazardous waste material must be heated to 750°F, maintained at that temperature for one-half (1/2) hour and then allowed to cool to 300°F prior to opening the treatment chamber. At no time is the treatment chamber to be opened when the temperature of the chamber is above 300°F.
- c. For incineration of combustible materials in the car bottom furnace, the combustion gas exit temperature must be maintained at a temperature in excess of 800°F. The combustion gas shall be maintained at a temperature in excess of 800°F for a number of hours determined by dividing the weight of combustible materials by the 250 pound per hour burn-off rate. If, during the treatment period as determined earlier or one hour, whichever is greater, the temperature falls below 800°F, the time that the temperature is below 800°F will not be considered as part of the treatment period. Once the temperature is again above 800°F, timing of the treatment period will resume. At no time will the treatment chamber be opened when the temperature of the car bottom furnace is in excess of 300°F.
- d. The car bottom furnace and rotary kiln shall not be operated simultaneously.
- e. The air pollution control equipment shall be operated in compliance with this permit while hazardous waste is being treated in the car bottom furnace.
- f. In the event that the secondary combustor or other units providing treatment of off gases fail to maintain the operating conditions specified in Special Permit Condition III.F.5. during operation of the car bottom furnace, the car bottom furnace burner shall be shut down, and the combustion air to the carbottom furnace will be shut off, until the operating conditions for the secondary combustor and

other air pollution control equipment return to normal. Once normal conditions have been re-established, the car bottom furnace burner may be re-started and the treatment period resumed.

7. Standard Operating Procedures

The requirements for submission of Standard Operating Procedures (SOPs) 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 modification 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 III.B., III.E. and III.F.1. through III.F.4. of this Permit and shall only be incinerated in accordance with operating requirements specified in Special Permit Condition III.F.5. and III.F.6. of this Permit. The Permittee shall develop SOPs 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 SOP 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 SOP 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 SOPs.
- b. The SOP shall specify maximum mass feed rates of specific waste feed types (in pounds per hour or pounds per batch) 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 the waste. At no time shall the feed rate (in pounds per hour or pounds per batch) for any specific waste feed type be exceeded.

8. Temperature Exemption

The Permittee is exempt from the minimum rotary kiln exit gas temperature requirement, as specified in Special Permit Condition III.F.5.b., in the following circumstances, provided that the hazardous waste being burned does not contain a significant concentration (greater than 100 ppm) of any hazardous organic constituent listed in 40 CFR Part 261, Appendix VIII., and is:

- a. A hazardous waste listed in 40 CFR Part 261 Subpart D, solely because it is reactive (Hazard Code R), for characteristics other than those listed in 40 CFR 261.23(a)(4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone,
- b. A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous waste under 40 CFR Part 261, Subpart C, or
- c. A hazardous waste solely because it possesses any of the reactivity characteristics described by 40 CFR 261.23(a)(1), (2), (3), (6), (7) and/or (8), and will not be burned when other hazardous wastes are present in the combustion zone.

Any of the above-mentioned hazardous wastes may also possess the characteristics of toxicity as designated by waste codes D005, D006, D007, D008, D009, D010 and/or D011.

The Permittee is exempt from the maximum rotary kiln exit gas temperature requirement, as specified in Special Permit Condition III.F.5.b., when feeding hazardous wastes which contain regulated toxic metals at a rate that is less than the maximum emission rate or which contain no regulated toxic metals, as specified in Special Permit Condition III.E.3.

G. Monitoring [40 CFR 264.347]

1. The Permittee shall maintain, calibrate, and operate continuous monitors which monitor and record the operating conditions specified in Special Permit Condition III.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 Transmitter	Feed Room	Annually
Rotary Kiln Temperature	Thermocouple	Duct After Retort	Annually
Rotary Kiln Rotation Rate	Motion Sensor	Rotary Kiln	Not Required
Minimum Rotary Kiln Differential Pressure	Differential Pressure Transmitters	Rotary Kiln, Shrouds and Kiln Containment Building	Weekly
Secondary Combustion Temperature	Thermocouple	Secondary Combustion Chamber	Annually
Spray Dryer Solution Rate	Roto Meter	Soda Ash Feed	Not Required
Spray Dryer Exit Temperature	Thermocouple	Duct After Spray Dryer	Annually
Spray Dryer Differential Pressure	Differential Pressure Transmitter	Duct Before and After Spray Dryer	Annually
Baghouse Differential Pressure	Differential Pressure Transmitter	Duct Before and After Baghouse	Annually
Baghouse Bypass Damper	Limit Switch	Bypass Damper	Not Required
High Gas Flow Rate	Pressure Transmitter	Stack	Annually
Baghouse Temperature	Thermocouple	Duct After Baghouse	Annually
CO	Infrared Carbon Monoxide Analyzer	Stack	Daily
O <sub>2</sub>	Extractive Oxygen Analyzer	Stack	Daily
Discharge Conveyor	Motion Sensor	Discharge of Kiln	Not Required

2. Each monitor shall be calibrated at a frequency necessary to ensure that the device measurement does not indicate values deviating in excess of five percent (5%) from the full-scale reading. If the manufacturers specify a calibration frequency at shorter intervals than that specified above and the measuring device cannot perform to satisfy the specification, the measuring device shall be repaired or replaced with a device such that it will yield acceptable continuous monitoring data. The zero setting shall be set at each calibration event.
  3. The Permittee shall maintain and calibrate continuous CO monitoring equipment as needed, but not less than the frequency recommended by the equipment supplier. The CO monitoring equipment shall be calibrated as needed, but not less than daily when the incinerator is in operation. The CO monitoring equipment shall be examined by the equipment supplier's technical representative at least one time per year and certified by the supplier that the equipment has been calibrated in accordance with manufacturer's recommended procedures and guaranteed accuracy to  $\pm 10$  ppm or  $\pm 2.5\%$  of full scale readings, whichever is larger.
  4. The Permittee shall install and maintain visual monitors in the feed control building to allow the incinerator operator to view the feed handling. The Permittee shall provide the incinerator operator with all real time monitoring data required for compliance with Special Permit Conditions III.F.5., III.F.6. and III.G.
  5. 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 III.E.
  6. Upon request by the Department, the Permittee shall immediately provide a hard and/or electronic copy of the monitoring data.
- H. Inspection [40 CFR 264.347]
1. 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:
    - a. 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.

- b. The Permittee shall thoroughly, visually inspect the instrumentation for out-of-tolerance monitored and/or recorded operational data in accordance with Special Permit Condition III.G. The monitors must be maintained at a frequency such that the drift from the actual value does not vary five percent (5%) of the full scale reading over a twenty-four (24) hour period.
- c. 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 III.F.5.
- d. 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 III.F.
- e. 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 III.F.5.d. If any fugitive emissions are detected from the kiln building, the waste feed cut-off must be activated and waste must not be fed to the incinerator until the situation has been corrected.
- f. The Permittee shall install, maintain, and calibrate the waste feed cut-off systems identified in Special Permit Condition III.F.5. to automatically cut off waste feed to the rotary kiln whenever the operating parameters identified in Special Permit Condition III.F.5. are exceeded.

I. Recordkeeping

- 1. The Permittee shall record and maintain, in the operating record for this Permit, all monitoring and inspection data compiled under the requirements of this Permit.
- 2. The Permittee shall record in the operating record for this Permit the date and time of all automatic waste feed cut-offs, including the triggering parameters, reason for the cut-off, and corrective actions taken. The Permittee shall also record all failures of the automatic waste feed cut-offs to function properly and corrective actions taken. Operating logs will be retained at the facility administrative office.

3. The Permittee shall comply with all applicable requirements of restricted waste and treatment residues (e.g. ash, baghouse dust) of 40 CFR Part 268.
4. The Permittee shall record in the operating record for this Permit the date and time that the incinerator is in operation under the exemptions in Special Permit Condition III.F.8. Operating logs shall be retained at the facility administrative office.
5. The Permittee shall record in the operating record for this Permit the date, time, quantity and identity that all combined wastes are introduced to the incinerator. Operating logs shall be retained at the facility administrative offices.

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

At closure, the Permittee shall remove all hazardous waste and hazardous waste residues from the incinerator and associated equipment 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.

IV. Off-Site Requirements

A. Traffic Routes

The Permittee and other hazardous waste transporters shall presently use the following routes within Jasper County and Newton County, in the vicinity of the facility site, for the transportation of hazardous wastes generated outside those counties to the facility and for the transportation of hazardous wastes from the facility:

1. That part of U.S. 71 from the Barton County/Jasper County line to U.S. Interstate 44 in Jasper County;
2. That part of U.S. 71 from the McDonald County/Newton County line to U.S. Interstate 44 in Newton County;
3. U.S. Interstate 44;

4. That part of Missouri Route 249 between U.S. Interstate 44 and Missouri Route 66;
5. That part of Missouri Route 66 between Missouri Route 249 and U.S. Interstate 44; and
6. That part of Jasper County Road 180 between Missouri Route 66 and the facility.

When the new four-lane U.S. 71 is opened to traffic between the city of Carthage in Jasper County and U.S. 60 in Newton County, the Permittee shall then use the following routes within Jasper County and Newton County for the transportation of hazardous wastes generated outside those counties to the facility and for transportation of hazardous wastes from the facility:

1. U.S. 71;
2. U.S. Interstate 44;
3. That part of Missouri Route 66 between U.S. 71 and U.S. Interstate 44; and
4. That part of Jasper County Road 180 between Missouri Route 66 and the facility.

Use of these routes and any other routes shall conform to U.S. Department of Transportation regulations as well as any and all other applicable federal, state and local laws and regulations.

**B. Off -Site Emergency Response**

The Permittee shall provide supplemental emergency response off site at the request of any local government unit within the limits of Jasper and Newton Counties. The Permittee shall provide supplemental emergency response resources off site only for incidents involving the transportation of hazardous wastes to or from the facility, or for incidents involving hazardous waste at the facility. The supplemental emergency response resources shall include those capabilities of the facility emergency response team which are requested by the local government unit, but which are not being utilized in another incident response. The Permittee shall comply with all applicable federal, state and local laws involving such response activity. The Permittee shall provide its emergency contact phone number(s) plus comprehensive information on handling explosive

cargo transportation incidents to all Jasper and Newton County response organizations who have responsibility along the permitted transportation routes, as noted in Special Permit Condition IV.A. A copy of the information provided along with a mailing list must be maintained by updating yearly and must be placed in the facility operating record.

C. Arrangements with Local Authorities

The Permittee shall attempt to enter into an arrangement with an emergency response agency, for example, a local fire department, to provide emergency services at the facility site as a back-up to the emergency services provided by the Duenweg Fire Department. Such an arrangement shall be in effect prior to the facility conducting operations. However, if an emergency response agency refuses to enter into such an arrangement, the Permittee shall document said refusal. In the event of a documented refusal, the facility's operation shall not be contingent upon such an arrangement with an emergency response agency being in effect.

V. 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.

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
Four (4) Magazines	Container Storage	40 CFR 264.1086
Storage/Feed Handling Building	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]

In 1992, Woodward-Clyde Consultants (WCC) conducted a Field Investigation of the facility. The goal of the investigation was to identify a clean site for the construction of the incinerator facility. WCC completed a comprehensive field sampling effort designed to characterize the types of potential contamination and the horizontal and vertical extent of any contamination found. The sampling plan was based partially on the results of previous fieldwork at the site. The 1990, Environmental Investigation of the Atlas Environmental Services Site (Fluor Daniel, 1990) included results from explosives analysis of soil samples collected during that field effort. Based on the WCC Field Investigation, there was no evidence that the facility was contaminated with explosives or volatiles in a systematic way.

On April 18, 2000, the U.S. EPA conducted a visual site inspection to identify SWMUs and AOCs at the facility. This site inspection was prompted by a request to modify the hazardous waste management Permit to transfer it to a new owner. The results of the site inspection can be found in a draft memorandum to the facility file at U.S. EPA Region VII. During the visual site inspection, the U.S. EPA identified 12 SWMUs and/or AOCs. The Permittee identified 15 SWMUs that have been created since the facility began operation. These SWMUs are identified in Section 1.13 and Table 1-2 of the approved Permit application. The Permittee also indicated that there have been no releases of hazardous waste or hazardous constituents from any of the units. Based on the above information, the Department has determined that the Permittee is not required to conduct any corrective action at this time. If, at any time, the Department determines that corrective action is required at any previously identified SWMUs or AOCs, and/or any newly-identified SWMUs or AOCs, such action shall be taken in accordance with the corrective action conditions of this Permit, including any necessary Permit modifications. The Permittee is required to comply with the following conditions:

- A. The Permittee shall grant full access to the facility for actions related to the December 29, 1989, Administrative Order on Consent between EPA and Atlas Powder Company (now ICI Explosives USA) and any future actions required by any federal or state permit, order or other agreement governing corrective action at the ICI Explosives USA facility.
- B. The Permittee shall conduct monitoring of the Runoff Water Sump/TK-103 and Storm Water Pond as identified in Figure 1-3 of the approved Permit application. This monitoring shall be conducted in accordance with the procedures described in the approved Permit application.

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. Interim/Stabilization Measures

- A. If the Permittee becomes aware of a situation that may require interim/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 interim/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 interim/stabilization measures, including potential Permit modifications and the schedule for implementing the interim/stabilization

requirements and will inform the Permittee of decisions regarding the action(s) in writing. This requirement shall not preclude the Permittee from responding to an emergency situation without direction of the Department.

- C. If, at any time, the Permittee determines or should have known that the interim/stabilization measures 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 interim/stabilization measures 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.
- D. In cases where releases present minimal exposure concerns and/or the remedial solution is straightforward, the Permittee may propose interim/stabilization measures for review and approval by the Department. These interim/stabilization measures shall be consistent with and may supplement and/or satisfy the requirements for a final remedy(s) in specific areas.

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 that 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, as appropriate:
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 interim/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 by the Permittee, including justification for the proposed final remedy selected by the Department.

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 any long-term operation, maintenance and monitoring activities) 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 interim/stabilization measures, 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 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.
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.