

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Mel Carnahan, Governor · Stephen M. Mahfood, Director

OFFICE OF THE DIRECTOR
P.O. Box 176 Jefferson City, MO 65102-0176

**MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT
PART I
PERMIT NUMBER: MOD981127319**

PERMITTEE

**Owner: Lone Star Industries, Inc.
P.O. Box 120012
Stamford, CT 06912-0014**

**Operator: Lone Star Industries, Inc.
2524 South Sprigg Street
Cape Girardeau, MO 63701**

FACILITY LOCATION

**2524 South Sprigg Street
Cape Girardeau, MO 63701
Cape Girardeau County
North Latitude - 37°16'
West Longitude - 89°32'**

FACILITY DESCRIPTION

Lone Star Industries, Inc. operates a dry process cement kiln with a four stage preheater and a precalciner at its Cape Girardeau facility. Solid and liquid hazardous wastes are burned for energy recovery in the kiln as supplemental fuel. Hazardous wastes generated on and off site are stored and blended for use as fuel in the kiln.

PERMITTED ACTIVITIES

This Permit allows for the storage and treatment including processing in an industrial furnace of "characteristic" hazardous waste as well as various "F, K, P, and U" listed hazardous wastes as specified in the Part A application. The Permit requires LSI to develop a plan for cement kiln dust handling, management and monitoring. The Permit also contains contingent corrective action provisions to address any release(s) to the environment of hazardous waste or hazardous constituents at the facility that may pose a threat to human health or the environment.

EFFECTIVE DATES OF PERMIT: February 16, 1999 to February 16, 2009 .

February 16, 1999
Date

[Original signed by Stephen Mahfood]

Stephen Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES

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INTRODUCTION

After public notice in accordance with 10 CSR 25-8.010 and 40 CFR Part 124, and review of Lone Star Industries, Inc.'s Hazardous Waste Facility Permit 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 (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 MOD981127319 to Lone Star Industries, Inc. as the owner and operator (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 other requirements of the Hazardous and Solid Waste Amendments (HSWA) of 1984 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 the Part I Permit are issued under state authority and the Part II Permit is issued under authority of the Environmental Protection Agency to address regulatory requirements of the HSWA of 1984 for which the state is not yet authorized. The Part I Permit shall remain in effect even if the Part II Permit is terminated or has expired.

The Permit application that was submitted by the Permittee dated January 1998, and the revisions dated February 2, 1998, and August 21, 1998, 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 II.A. are defined as the "consolidated Permit application."

The Permittee's hazardous waste facility is located at 2524 South Sprigg Street, Cape Girardeau, Missouri. Lone Star Industries, Inc. is permitted to operate the storage and treatment facility 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 final approved 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 approved 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 reissuance, 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, 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 February 16, 2009. 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 the 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. The appeal shall be filed with the Missouri Hazardous Waste Management Commission within 30 days from the date of this Permit.

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 shall 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 April 25, 1994, Missouri received interim 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 the Environmental Protection Agency are incorporated into this Permit and are under state authority. Federal administrative authority for other HSWA requirements for which the state has not adopted the applicable federal regulation and for which it is not authorized is retained by EPA in the Part II Permit.

All Permit application information shall be available to the public unless nondisclosure is requested in writing as set forth in Section 260.434, RSMo. The Permit and accompanying material will be available for review by the public at the Department's Southeast Regional Office, the U.S. EPA Region VII office in Kansas City, Kansas, and the Cape Girardeau Public Library, Cape Girardeau, Missouri.

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, 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).

"Approved Permit application" means the Permit application that was submitted by the Permittee dated January 1998, and the revisions dated February 2, 1998, and August 21, 1998.

"Consolidated Permit application" means the approved permit application and the additional documents to be submitted under Schedule of Compliance Item II.A.

"Department" means the Missouri Department of Natural Resources. Notification to the Department shall be made to Chief, Permits Section, Missouri Department of Natural Resources, Hazardous Waste Program, P.O. Box 176, 1738 East Elm Street (lower level), Jefferson City, MO 65102.

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

"Facility" means:

"All contiguous land, and structures, other appurtenances and improvement 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 XIV. 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, or 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 30 calendar days after the date of final Permit issuance, the Permittee shall submit to the Department an engineering plan for the anchoring of tanks and equipment in order to remedy seismic vulnerabilities identified in the Earthquake Risk Assessment dated January 1998 and submitted with the approved Permit application.
- II. Within 60 calendar days after the date of final Permit issuance, 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:
 - the "approved Permit application," as defined in the Introduction of this Permit; and
 - all changes made to the application as a result of the public comment period.
 - B. Submit to the Department a certification by the Permittee that the Permittee has read the Permit in its entirety and understands all Permit conditions contained herein.
 - C. Submit to the Department a check or money order payable to the State of Missouri for any outstanding engineering review costs.
 - D. Submit to the Department a check or money order payable to the State of Missouri for \$1,000 for each year the Permit is to be in effect beyond the first year. This Permit is effective for ten years. Since the Permittee has submitted a check for \$1,000 with the RCRA Permit application, the remaining balance to be submitted by the Permittee is \$9,000 less an equivalent of \$1,000 for the period of time from the effective date of this ten year Permit to February 16, 2009. 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.

- E. Submit to the Department a certification in accordance with 40 CFR 270.11(d) that the modifications described in the engineering plan required by Schedule of Compliance Item I. have been completed as described. A certification completed by a qualified independent professional engineer registered in the state of Missouri which states that the facility is able to withstand stresses due to earthquake loading must also be submitted.

- F. Submit to the Department the information required by 40 CFR 270.14(b)(11)(iv). This information shall include:
 - an engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as a consequence of a 100-year flood;

 - structural or other engineering studies showing the design of operational units and flood protection devices at the facility and how these will prevent washout of hazardous waste or hazardous constituents; and

 - a certification completed by a qualified independent professional engineer registered in the state of Missouri which states that the flood protection system and operational units are adequately designed to prevent washout during a 100-year flood.

- III. The Permittee shall comply with all applicable corrective action requirements of this Permit as specified in the Corrective Action Conditions Section.

- IV. The Permittee shall comply with all items contained in the Part II Permit Schedule of Compliance.

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
P.O. Box 176
1738 E. Elm Street (lower level)
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
726 Minnesota Avenue
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 G, 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 their 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 management facility.

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

A. Waste Identification.

The Permittee may store 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 maximum quantity of containerized hazardous wastes that may be stored in the drum processing building is 54,000 gallons at any one time.

1. Except as provided for below for 3.5 gallon pails, the Permittee shall store containers in a manner that ensures physical stability and allows for visual inspection of each container. This shall include:
 - a. For containers that are stacked on pallets, the maximum stacking height shall not exceed eight feet.
 - b. All container labels shall be visible from an aisle.
 - c. All containers shall be accessible from an aisle.
 - d. A minimum of four feet of aisle space shall be maintained between rows of adjacent containers to allow for inspection of each container.
2. The Permittee shall manage 3.5 gallon pails in accordance with the following requirements:

- a. The Permittee shall store pails in a manner that ensures physical stability.
- b. Adequate spacing shall be maintained between the pallets within the row to allow for inspection of the outer row of containers on the pallet.
- c. All labels on the outer row of pails shall be visible.
- d. The Permittee shall not store any wastes which contain free liquids in 3.5 gallon pails.
- e. Pallets containing pails shall not be stacked more than two pallets high.
- f. The maximum number of pails on a pallet shall not exceed 48 pails, arranged in three levels, with 16 pails per level.

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 this 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. Containers storing hazardous wastes shall be labeled in accordance with the applicable, currently-effective U.S. Department of Transportation (DOT) regulations regarding hazardous materials, 49 CFR Part 172, during the entire on-site storage period. [10 CSR 25-7.264(2)(I)2.]
3. Containers storing hazardous wastes shall be marked in accordance with the applicable, currently-effective U.S. DOT regulations regarding hazardous materials, 49 CFR Part 172, during the entire on-site storage period. [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 which is made of, or lined with, materials which will not react with and are otherwise compatible with the hazardous waste to be stored so that the ability of the container to contain the waste is not impaired.
2. Each container shall be packaged following the applicable currently-effective DOT regulations regarding hazardous materials pursuant to 49 CFR Part 173, except for the assigning of manifest numbers to the container, during the entire period the containerized hazardous waste is in storage on site.

E. Management of Containers [40 CFR 264.173].

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 which may rupture the container or cause it to leak.

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. 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. 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.

- I. Special Requirements for Incompatible Wastes [40 CFR 264.177].
1. The Permittee shall not place incompatible wastes or incompatible wastes and 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 a device (i.e., a dike, berm, wall, or other physical means) containers of incompatible waste or materials. No incompatible waste or materials may be stored together in the storage area without providing separation sufficient to prevent the mixing of any spilled materials which may be incompatible.

J. Closure [40 CFR 264.178 and 10 CSR 25-7.264(2)(I)]

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 approved Closure Plan for the hazardous waste management facility.

II. Storage and Treatment in Tanks [40 CFR Part 264 Subpart J]

A. Waste Identification.

The Permittee may store only the hazardous wastes identified in the Part A Permit application. All stored wastes are subject to the terms of this Permit. The Permittee may treat only the hazardous wastes identified in the Part A Permit application in tanks.

B. Waste Quantities.

The Permittee shall utilize the following tanks at the facility, subject to the terms of this Permit.

Table I
Tank Identification

Tank I.D. Number	Tank Description	Volume (gallons)
	Disperser Tank	1,100
Tank #1	Blend Tank	40,000
Tank #2	Blend Tank	40,000
Tank #3	Blend Tank	40,000
Tank #4	Blend Tank	40,000
Tank #5	Burn Tank	40,000
Tank #6	Burn Tank	40,000

- C. The Permittee shall meet the requirements of 10 CSR 25-7.264(2)(J)7. for blending of hazardous waste in tanks prior to burning and for physical treatment of hazardous waste in tank systems. 10 CSR 25-7.264(2)(J)7. requires facilities which treat hazardous waste in tank systems to comply with 40 CFR Part 264 Subpart X and 10 CSR 25-7.264(2)(X).

- D. Permitted Treatment.

The Permittee shall perform only physical fuel blending, grinding, and filtration in the identified tanks and ancillary equipment to those tanks as specified in Special Permit Condition II.A. and II.B. of this Permit. For the purposes of this Permit, physical fuel blending shall consist of the mixing of compatible, non-reactive hazardous wastes in order to meet the criteria for hazardous waste fuels as described in the approved Permit application.

All blending of hazardous waste fuels in tanks shall be conducted as described in Section 2, *Waste Analysis Plan*, of the approved Permit application.

- E. Design and Installation of New Tank Systems or Components [40 CFR 264.192].
1. Prior to operation of new tank systems at the facility, the Permittee shall obtain and submit to the Director, a written assessment, reviewed and certified by a qualified independent professional engineer registered in the state of Missouri. This certification shall be in accordance with 40 CFR 270.11(d). This assessment shall include a final design set of certified construction drawings, and shall show that the foundation, structural supports, seams, connections, and pressure controls are adequately designed to ensure that the tank systems will not collapse, rupture, or fail. This assessment will be subject to regulatory review and approval procedures.
 2. The Permittee shall ensure that proper handling procedures are adhered to in order to prevent damage to new tank systems

during installation. Prior to placing a new tank system in use, a qualified independent installation inspector or a qualified independent professional engineer registered in the state of Missouri, either of whom is trained and experienced in the proper installation of tank systems or components, shall inspect the systems for weld breaks, punctures, scrapes of protective coatings, cracks, corrosion, and other structural damage or other inadequate construction/installation. All discrepancies shall be remedied before the tank systems are placed in use.

3. The Permittee shall test all new tanks and ancillary equipment for tightness prior to being placed in use. If a tank system is not tight, all repairs necessary to remedy the leak(s) in the system shall be performed prior to the tank system being placed into use.
 4. The Permittee shall ensure that all ancillary equipment is supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.
 5. The Permittee shall obtain and keep on file at the facility written statements by those persons certifying to the design of the tank systems and supervising the installation of tank systems in accordance with the requirements of 40 CFR 264.192(b) through 40 CFR 264.192(f).
- F. Containment and Detection of Releases [40 CFR 264.193].
1. In order to prevent the release of hazardous waste or hazardous constituents to the environment, the Permittee shall provide secondary containment that meets the requirements of 40 CFR 264.193 for all of its tank systems.
 2. Secondary containment systems shall be:
 - a. Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater, or surface water at any time during the use of the tank system; and

- b. Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.
3. To meet the requirements of 40 CFR 264.193(b), secondary containment systems shall be, at a minimum:
 - a. Constructed of, or lined with, materials that are compatible with the wastes to be placed in the tank systems and shall have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which they are exposed, climatic conditions, and the stress of daily operation (including stresses of nearby traffic);
 - b. Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;
 - c. Provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the Permittee can demonstrate to the Department that existing detection technologies or site conditions will not allow detection of a release within 24 hours; and
 - d. Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation shall be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health and the environment, if the Permittee can demonstrate to the Department that

removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours. If the collected material is a hazardous waste as defined in 40 CFR Part 261, it shall be managed as a hazardous waste. If the collected material is discharged through a point source to waters of the state or it is discharged to a Publicly Owned Treatment Works, it is subject to the requirements of Chapter 644, RSMo, and 10 CSR 20. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR Part 302 and §260.500, et seq., RSMo.

4. Secondary containment for tanks shall include one or more of the following devices: a liner (external to the tank); a vault; a double-walled tank; or an equivalent device as approved by the Department. The design, construction, and operation of these devices shall satisfy the requirements of 40 CFR 264.193(e).
 5. Ancillary equipment shall be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of 40 CFR 264.193(b) and 40 CFR 264.193(c), except for the following tank system components that are visually inspected for leaks on a daily basis: aboveground piping (exclusive of flanges, joints, valves, and other connections); welded flanges, welded joints, and welded connection; sealless or magnetic coupling pumps and sealless valves; and pressurized aboveground piping systems with automatic shut-off devices.
- G. General Operating Requirements [40 CFR 264.194].
1. The Permittee shall not place hazardous waste or treatment reagents in a tank system if they would cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.
 2. The Permittee shall use appropriate controls and practices to prevent spills and overflows from the tank or containment systems. These include, at a minimum:

- a. Spill prevention controls, such as, but not limited to, check valves, dry disconnect couplings; and
- b. Overfill prevention controls, such as, but not limited to, level sensing devices, high level alarms, automatic feed cut offs, or bypass to standby tanks which limit tank working volumes.

H. Inspections [40 CFR 264.195].

The Permittee shall inspect all tanks and tank systems as specified in the inspection schedules contained in the approved Permit application. A qualified independent professional engineer registered in the state of Missouri shall test all of the permitted tanks and tank systems by ultrasonic methods for material thickness, vacuum box testing for leakage on all seam welds and circumferential corner welds on the tank bottoms. These tests and inspection shall be made at intervals not to exceed 12 months.

1. The Permittee shall inspect overfill controls on a 12-month schedule.
2. The Permittee shall inspect at least each operating day:
 - a. Aboveground portions of the tank systems to detect corrosion or releases of wastes;
 - b. Data gathered from monitoring and leak detection equipment to ensure that the tank system is being operated according to its design; and
 - c. The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system to detect erosion or signs of releases of hazardous waste.
3. The Permittee shall document these inspections in the operating record of the facility. Any deterioration or malfunction found shall be remedied in accordance with 40 CFR 264.15(c).

- I. Response to Leaks or Spills and Disposition of Leaking or Unfit-for-Use Tank Systems [40 CFR 264.196, as incorporated in 10 CSR 25-7.264(2)(J)].

A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, shall be removed from service immediately, and the Permittee shall satisfy the following requirements:

1. The Permittee shall immediately stop the flow of hazardous waste into the tank or secondary containment system and inspect the system to determine the cause of the release.
2. Removal of waste from tank systems or secondary containment systems:
 - a. If the release was from the tank system, the Permittee shall, within 24 hours after detection of the leak, or, if the Permittee demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.
 - b. If the material released was to a secondary containment system, the Permittee shall remove all released materials within 24 hours, or, in as timely a manner as is possible, to prevent harm to human health or the environment.
3. Containment of Releases to the Environment.

The Permittee shall immediately conduct an inspection of the release and, based upon that inspection, shall:

- a. Prevent further migration of the leak or spill to soils or surface water; and
- b. Remove, and properly dispose of, any contamination of the soil or surface water.

4. Notifications and Reports.
 - a. Any release to the environment, except a release which is exempt under 40 CFR 264.196(d)(2), shall be reported to the Director within 24 hours of its detection or discovery. If the release has been reported pursuant to 40 CFR Part 302 or §260.500, et seq., RSMo, that report will satisfy this requirement.
 - b. A leak or spill of hazardous waste is exempted from notification and reporting requirements if it is less than or equal to a quantity of one pound, and is immediately contained and cleaned up.
 - c. Within 30 days of detection of a release to the environment, the Permittee shall submit a report to the Director which details the likely route of migration of the release, characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate), the results of any monitoring or sampling conducted in connection with the release (if available; when these results are not available within 30 days, these results shall be submitted as soon as they become available), proximity to downgradient drinking water, surface water and populated areas, and descriptions of response actions taken or planned.
5. The tank system shall be closed in accordance with 40 CFR 264.197, 10 CSR 25-7.264(2)(J)5. unless the Permittee satisfies the following requirements:
 - a. If the cause of the release was a spill that has not damaged the integrity of the system, the Permittee may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

- b. If the cause of the release was a leak from the primary tank system into the secondary containment system, the system shall be repaired prior to returning the tank system to service.
 - c. If the source of the release was a leak to the environment from a tank system component without secondary containment, the Permittee shall comply with the provisions of 40 CFR 264.196(e)(4).
 - 6. The Permittee shall provide certification of major repairs to tank systems from which there has been a leak or spill, or which are/were unfit for use, in accordance with 40 CFR 264.196(f).
- J. Special Requirements for Ignitable or Reactive Waste [40 CFR 264.198 and 10 CSR 25-7.264(2)(J)].
 - 1. The Permittee shall not place ignitable or reactive waste in tank systems unless:
 - a. The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that the resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under 40 CFR Part 261, and 40 CFR 264.17(b) is complied with;
 - b. The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or
 - c. The tank system is used solely for emergencies.
 - 2. The Permittee shall comply with the requirements for the maintenance of protective distances between tanks storing ignitable or reactive wastes and any public ways, streets, alleys, or any adjoining property 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" (1977 or 1981, incorporated by reference in 40 CFR 260.11).

- K. Special Requirements for Incompatible Wastes [40 CFR 264.199].
 - 1. The Permittee shall not place incompatible wastes, or incompatible wastes and material, in the same tank system, unless the Permittee complies with 40 CFR 264.17(b).
 - 2. The Permittee shall not place hazardous waste in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless the Permittee complies with 40 CFR 264.17(b).
- L. Closure and Post-Closure Care [40 CFR 264.197 and 10 CSR 25-7.264(2)(J)5.]

At closure, the Permittee shall remove or decontaminate all hazardous waste, and hazardous residues, from the tank systems, 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 approved Closure Plan for the hazardous waste management facility.

III. Miscellaneous Treatment [40 CFR Part 264 Subpart X]

- A. The Permittee shall meet the standards for miscellaneous physical and chemical treatment units in 40 CFR Part 264 Subpart X. The miscellaneous treatment processes identified in this Permit are drum processing and pail packaging.

Table II
 Miscellaneous Treatment Identification

Process	Description	Capacity
Drum Processing	Mechanical extrusion of waste from drums and mixing of waste in dispersion tank.	13,000 gallons per day.
Pail Packaging	Loading of 3.5 gallon pails with solid hazardous waste.	4,500 gallons per day.

B. Waste Identification.

The Permittee may treat only the hazardous wastes identified in the Part A Permit application in the drum processing unit and the pail packaging process subject to the terms of this Permit.

C. Processing of materials in each of the miscellaneous treatment processes shall not exceed the throughput as specified in this Permit. All throughputs shall be documented in the facility's operating record.

D. All affected operations shall be discontinued immediately in the event the vapor recovery control system and nitrogen purging systems, as specified in the approved Permit application, malfunction or are shut down for maintenance. Operations can resume only when effective repairs have been made, or the system is fully operational and can resume processing.

E. At closure, the Permittee shall remove all hazardous waste and hazardous waste residues from all equipment and containment systems associated with the miscellaneous treatment processes identified in Table II and close in accordance with the approved Closure Plan for the hazardous waste management facility.

IV. Industrial Furnace Requirements [40 CFR Part 266 Subpart H and 10 CSR 25-7.266]

Pursuant to 10 CSR 25-7.266, the provisions of Section D., Industrial Furnace Requirements, of Part II of this Permit are, by this reference incorporated herein.

V. Location Standards [40 CFR 264.18 and Section 260.395.9, RSMo]

The Permittee shall provide information necessary to verify compliance with the location standards of 40 CFR 264.18 by submitting the information required by Schedule of Compliance Item II.G.

VI. 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.

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

The Permittee shall demonstrate compliance with the seismic requirements by complying with Schedule of Compliance Item I. and II.E.

VIII. Air Emissions from Equipment Leaks

- A. The Permittee shall comply with 40 CFR Part 264 Subpart BB for air emissions from pumps, valves, compressors, sampling, connecting systems, open-ended valves or lines, pressure relief devices, flanges and other connectors, and closed-vent systems and control devices that contain or contact hazardous waste with organic concentrations of at least ten percent by weight.
- B. The Permittee shall comply with the test methods and procedures, record keeping, and reporting requirements of 40 CFR Part 264 Subpart BB.

CORRECTIVE ACTION CONDITIONS

- I. Identification of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) [40 CFR 264.101]
 - A. The EPA has conducted a RCRA Facility Assessment (RFA) to identify and gather information on releases or potential releases from SWMUs and AOCs at the facility. The final RFA Report dated September 30, 1993, identified 56 SWMUs and 7 AOCs; of which 15 SWMUs and 4 AOCs were identified as requiring further corrective action. The location of SWMUs and AOCs is shown on Corrective Action Figure 1. SWMUs and AOCs identified in the RFA as requiring further corrective action are as follows:
 1. SWMU Group A.
 - a. SWMU #10-Concrete Drum Pad.
 - b. SWMU #11-Earthen Drum Storage Area.
 - c. SWMU #14.1-Cement Kiln Dust Landfill #1.
 - d. SWMU #25.1-Scrap Area 1.
 - e. SWMU #26-Industrial Landfill.
 - f. SWMU #27-Burn Areas.
 2. SWMU #15-Kiln Dust Storage Silo.
 3. SWMU #23-Lake.
 4. SWMU #24-Settling Pond 1.
 5. SWMU #25.2-Scrap Area 2.
 6. SWMU #28.4-Former Underground Storage Tank D.
 7. SWMU #30-Raw Material Crusher.

8. SWMU #31-Raw Material Building.
9. SWMU #32-Raw Material Storage Area.
10. SWMU #33-Diesel Fuel Storage Tanks.
11. AOC #1-Front Driveway Spill Area.
12. AOC #2-Drainage Ditch.
13. AOC #3.1-Catch Basin 1.
14. AOC #3.2-Catch Basin 2.

Prior to issuance of this Permit, the Permittee addressed and/or conducted, with Departmental oversight/approval, investigation and/or remediation of the 15 SWMUs and 4 AOCs identified for further corrective action in the RFA. The results of these activities are documented in a Solid Waste Management Unit, Corrective Action Evaluation Report dated April 1995 and a follow-up Summary Report Solid Waste Management Units and Areas of Concern dated August 27, 1996.

Based on review of these documents, the Department has determined that the investigation and remediation performed by the Permittee prior to Permit issuance has satisfactorily addressed corrective action requirements. Therefore, additional corrective action for the 15 SWMUs and 4 AOCs identified in the RFA is not required at this time with the following exception. Continued monitoring, operation, maintenance and reporting requirements for the units comprising SWMU Group A is specified within Corrective Action Condition II.A.

- B. This Permit requires the Permittee to conduct further investigation(s) and/or take corrective action as deemed appropriate by the Department for any releases or potential releases at the facility as specified in Corrective Action Conditions III. and IV.

II. Site Operation, Maintenance, and Monitoring Plan

- A. The Permittee shall submit within 60 days of the effective date of this Permit a Site Operation, Maintenance and Monitoring (OM&M) Plan which addresses:
1. The operation, maintenance and monitoring requirements for SWMU Group A as specified within Corrective Action Condition II.B.; and
 2. Documentation and continued application of the Permittee's Spill Prevention, Control and Countermeasure (SPCC) Plan as referenced within the Permittee's Summary Report Solid Waste Management Units and Areas of Concern including the additional requirements specified in Corrective Action Condition II.C.

The Site OM&M Plan will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Corrective Action Condition XIV. Upon approval thereof by the Department, the Permittee shall initiate all monitoring activities detailed therein and comply with all contingency-based schedules contained in the approved plan.

- B. SWMU Group A consists of the units listed within Corrective Action Permit Condition I.A.1. as depicted on Corrective Action Figure 1 and within the Permittee's Solid Waste Management Unit, Corrective Action Evaluation Report and the Summary Report Solid Waste Management Units and Areas of Concern. The Permittee shall develop operation, maintenance and monitoring standards for SWMU Group A to address the following requirements:
1. Cement Kiln Dust (CKD) management procedures related to SWMU #14.1-CKD Landfill #1 including CKD collection, management, wetting, transfer, landfill placement, and spill clean-up criteria and procedures;
 2. Storm water run on and run off controls for units within SWMU Group A to minimize erosion, ponding, and infiltration including discussion of any required surface water monitoring;

3. A contingency plan for SWMU Group A addressing any potential hazards (i.e., flooding, seismic activity) or other events which could cause damage to the berm and/or monitoring wells surrounding CKD Landfill #1. This plan shall discuss inspection requirements and actions to be taken in the event the integrity of the berm or monitoring wells have been compromised;
4. Specifications regarding management, draining, and collection of liquids from and storage of equipment/machinery in SWMU Group A (or elsewhere on site) to minimize the potential for releases of hazardous waste and/or hazardous constituents to the environment; and
5. A groundwater monitoring program comprised of annual sampling and analysis of groundwater from existing groundwater monitoring wells to assess potential releases from SWMU Group A.
 - A. This program shall detail:
 - i. Well sampling locations and specific sampling parameters;
 - ii. Quality Assurance/Quality Control (QA/QC) goals and specifications associated with the annual groundwater sampling events that are sufficient to ensure the reliability and representative nature of the analytical results;
 - iii. A monitoring well inspection and maintenance program designed to ensure the structural integrity of all monitoring wells;
 - iv. An annual wellbore siltation evaluation to assess downwell siltation and screen occlusion as may bear on the representative nature of the groundwater analysis results;

- v. A well redevelopment trigger criterion based on a percentage of well screen occlusion;
 - vi. Criteria for triggering further investigation of the groundwater in the event that the Permittee's groundwater monitoring results indicate a release from the CKD Landfill #1;
 - vii. Groundwater monitoring well repair criteria including a schedule for inspection of wells contacted by flood waters and completion of monitoring well repairs in the case of flood or other damage; and
 - viii. The packaging and reporting of groundwater data, to be submitted as part of the Annual Progress Report required by Corrective Action Condition XII., composed of: groundwater analysis results; field parameter measurement results; copies of field sampling and well inspection log sheets; well repair documentation; QA/QC data and other relevant groundwater-related information.
- C. The Spill Prevention, Control and Countermeasure Plan referenced within the Permittee's Solid Waste Management Unit, Corrective Action Evaluation Report and the Summary Report Solid Waste Management Units and Areas of Concern shall be incorporated into the Site OM&M Plan. This plan shall include, at a minimum, contingent procedures detailing:
- 1. CKD handling and hauling procedures as related to transportation of CKD from the process area to CKD Landfill #1 and associated CKD spill clean-up criteria and procedures;
 - 2. Loading/unloading procedures at tanks and containers, designed to minimize releases of hazardous waste and hazardous constituents to the environment, including defining spill clean-up criteria and procedures; and

3. Evaluation of the current facility-wide storm water management procedures and use of Best Management Practices for handling storm water run off from SWMU #30-Raw Material Crusher, SWMU #31-Raw Material Storage Building, and SWMU #32-Raw Material Storage Area.
- D. As of the effective date of this Permit, the CKD requirements of Corrective Action Condition II. shall apply. The Permittee shall comply with these requirements until such time as new federal and/or state regulations addressing the regulatory status, management and/or disposition of CKD are finally promulgated and are effective in Missouri. "Effective in Missouri" shall mean that all regulatory requirements are in effect and that the Permittee has successfully complied with all such requirements. Once the Permittee has complied with the new regulations, the CKD requirements of Corrective Action Condition II. will be superseded by the new regulations. The Department will notify the Permittee in writing of the transition date for the CKD requirements.

III. 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 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 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 shall 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.

- 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 XIV. The Permittee shall initiate implementation of said plan within 60 days of receipt of departmental approval and shall complete the 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 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 XIV. 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 XIV. The Permittee shall initiate implementation of said plan within 60 days of receipt of departmental approval and shall complete implementation in accordance with the schedule contained in the approved plan.

IV. Notification Requirements for, and Assessment of, Newly-Identified Releases from Previously-Identified SWMUs and AOCs

- A. No later than 15 days after discovery, 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.
- B. The Department may require a Newly-Identified Release Work Plan for conducting an investigation of the newly-identified release(s). Within 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 shall 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.

- 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 XIV. The Permittee shall initiate implementation of said plan within 60 days of departmental approval and 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 Permittee suspects the release 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 XIV. 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 RFI.

V. Stabilization

- A. If the Permittee becomes aware of a situation that may require stabilization measures to protect human health or the environment, the Permittee shall notify the Department and EPA within 24 hours of the time the Permittee becomes aware or should have become aware of the situation.
- B. If during the course of any activity initiated under this Permit, the Permittee or the Department determines that a release or potential release of hazardous waste, including hazardous constituents, poses a threat to human health or the environment, the Department may require stabilization measures to slow or stop the further spread of contamination until final corrective action measures can be implemented. The Department will determine the specific action(s) that shall be taken to implement stabilization, including the need for potential Permit modifications and the schedule for implementing the stabilization requirements, and will inform the Permittee of decisions regarding the action(s), in writing.

- C. If at any time, the Permittee determines or should have known that the stabilization program is not effectively limiting or stopping the further spread of contamination, the Permittee shall notify the Department in writing no later than ten days after such a determination is made. The Department may require that the stabilization program be revised to make it effective in limiting or stopping the spread of contamination; or that final corrective action measures are required to remediate the contaminated media.

VI. 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 a RFI Work Plan. The Permittee shall submit a RFI Work Plan to the Department and EPA within 60 days of being notified of the requirement to conduct a RFI. 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 meet the following objectives:
 - 1. Full characterization of the nature, vertical and horizontal extent, and rate of migration of releases of hazardous waste and/or hazardous constituents from SWMUs and AOCs, or groups of SWMUs at the facility and the actual or potential receptors of such releases; and
 - 2. Collection of any other pertinent data which may be utilized to substantiate future corrective action decisions.
- B. The RFI Work Plan shall be appropriate for site-specific conditions and shall be consistent with and address all applicable investigation elements described in the most recent version (currently May 1989) of the EPA guidance document entitled, RCRA Facility Investigation Guidance; EPA 530/SW-89-031. At a minimum, the RFI Work Plan shall detail all proposed activities and procedures to be conducted at the facility, a description of current conditions, the schedule for implementing and completing such investigations, and for submission

of reports (including the final RFI Report), the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI.

- C. The RFI Work Plan shall include a Quality Assurance Project Plan (QAPP). The QAPP shall present the policies, organization, objectives, functional activities, and specific quality assurance and quality control activities designed to achieve the data quality goals of the RFI. It shall include the RFI objectives, sampling procedures, analytical methods, field and laboratory quality control samples, chain-of-custody procedures and data review, validation, and reporting procedures.
- D. The Permittee shall prepare and maintain a health and safety plan during the project that assures the RFI activities are conducted in a manner that is protective of human health and the environment.
- E. Due to the complexity of defining the extent of contamination, the Permittee may be required to use a phased approach which 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 XIV. The Permittee shall initiate implementation of said plan(s) within 60 days of receipt of departmental approval and shall complete implementation in accordance with the schedules contained in the approved plan(s).

VII. RCRA Facility Investigation (RFI) Report

- A. The Permittee shall submit a RFI Report to the Department and EPA in accordance with 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 information presented in the RFI Report shall be presented in a form that is consistent with Section 5 of the most recent version 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 CMS may be necessary. The RFI Report shall describe the procedures, methods, and results of all investigations of SWMUs/AOCs and their releases, including, but not limited to, the following:
1. Characterization of the nature, concentration(s), horizontal and vertical extent, and direction/rate of movement of releases from SWMUs/AOCs at the facility.
 2. Characterization of the environmental setting of the facility, including:
 - a. Hydrogeological conditions;
 - b. Climatological conditions;
 - c. Soil and bedrock characteristics;
 - d. Surface water and sediment quality; and
 - e. Air quality and meteorological conditions.
 3. Characterization of SWMUs/AOCs from which releases have been or may be occurring, including unit and waste characteristics.
 4. Descriptions of human and environmental receptors and associated risks to the receptors, which are, may have been, or, based on site-specific circumstances, could be exposed to release(s) from SWMUs/AOCs.
 5. Assessment of potential risks to the human and environmental receptors (e.g., Baseline Risk Assessment) exposed to release(s) from SWMUs/AOCs.
 6. Extrapolations of future contaminant movement including description of contaminant fate and transport mechanisms and pathways for human and environmental exposure.

7. Laboratory, bench-scale, pilot-scale, and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the facility.
 8. Statistical analyses to aid in the interpretation of data.
 9. Results of any stabilization measures previously implemented.
 10. Evaluation of data quality which may affect the nature and scope of a CMS as well as the evaluation of corrective measure 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 XIV. 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 which may include submittal of a CMS Work Plan pursuant to Corrective Action Condition VIII.

VIII. 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 45 days of being notified of the requirement to conduct a CMS. The CMS Work Plan shall be consistent with guidance contained in the current version of the EPA document entitled: RCRA Corrective Action Plan; OSWER Directive 9902.3-2A. At a minimum, the CMS Work Plan shall provide the following information:
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 which 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 CMS 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 XIV. The Permittee shall initiate implementation of said plan within 60 days of receipt of departmental approval and shall complete implementation in accordance with the schedule contained in the approved plan.

IX. 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 most current version of the EPA document entitled, RCRA Corrective Action Plan; 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. Estimate 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 XIV. The Department will approve a final remedy as specified in Corrective Action Condition X.

X. Final Remedy Approval

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

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

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

XI. Financial Assurance for Corrective Action

- A. Within 120 days after this Permit has been modified to include a final remedy, the Permittee shall demonstrate continuous compliance with the financial assurance requirements in effect at that time for corrective action being performed under state law. The effective financial assurance requirements for corrective action shall be consistent with and/or substantially equivalent to that specified in either final RCRA Subpart S corrective action regulations or 40 CFR Part 264 Subpart H, as incorporated by reference in 10 CSR 25-7.264. The amount of financial assurance shall be based on the Permittee's cost estimate for the approved final remedy, which is contained in the approved CMS Final Report.

Financial assurance required for the container storage, tank storage, and miscellaneous process storage is already covered by other specific financial assurance requirements contained in this Permit.

- B. Annually by March 1, the Permittee shall adjust the corrective action cost estimate to account for inflation in accordance with 40 CFR 264.142(b) and any other changes in the costs associated with implementation, operation, maintenance and monitoring of the approved final remedy. If the cost estimate increases, documentation of adequate financial assurance for that increase shall be provided to the Department within 60 days following the increase in the cost estimate.

XII. Annual Progress Reports

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

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

1. A description of the work completed;
2. Summaries of all findings, including summaries of laboratory data;
3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify the 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 III. through XI., 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, any detailed technical information required to be submitted as part of stabilization, RFI, and/or CMS Reports and Work Plans need not be reproduced as part of the Permittee's Progress Reports.
- C. Copies of other reports (e.g., inspection reports), information, or data shall be made available to the Department and EPA upon request.

XIII. 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.

XIV. Review and Approval Procedures

Following submission of any plan or report pertaining to corrective action activities (excluding the Annual Progress Reports), the Department will review and either approve or disapprove the plan or report in writing.

If the Department does not approve the plan or report, the Department will notify the Permittee in writing of the plan's or report's deficiencies and specify a due date for submittal of a revised plan or report.

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

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If the Permittee disagrees with any Department initiated plan or report modifications, and a mutually acceptable resolution of such modifications can not be informally reached, any appeal of the Department initiated modifications shall be filed in accordance with Section 260.395.11., RSMo, and 10 CSR 25-8.

FACILITY SUBMISSION SUMMARY

Table III

Summary of the planned submittal requirements (other than those specified on Table IV) 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.
Engineering plan for anchoring of tanks and equipment.	Within 30 calendar days of effective date of Permit.	Schedule of Compliance Item I.
Consolidated Permit Application	Within 60 calendar days of effective date of Permit.	Schedule of Compliance Item II.
Certification that tanks and equipment have been anchored in accordance with plan.	Within 60 calendar days of effective date of Permit.	Schedule of Compliance Item II.
Location standards information required by 40 CFR 270.14(b)(11)(iv).	Within 60 calendar days of effective date of Permit.	Schedule of Compliance Item II.
Certification that Permittee has read and understands this Permit.	Within 60 calendar days of effective date of Permit.	Schedule of Compliance Item II.
Check or money order for \$9000 and all outstanding engineering review costs.	Within 60 calendar days of effective date of Permit.	Schedule of Compliance Item II.

CORRECTIVE ACTION SUBMISSION SUMMARY

Table IV

Summary of the planned corrective action submittal requirements pursuant to the Corrective Action Conditions of this Permit.

PLANNED SUBMITTAL REQUIREMENTS	DUE DATE	CORRECTIVE ACTION CONDITION
Site Operation, Maintenance and Monitoring Plan	Within 60 calendar days of effective date of this Permit.	II.A.
Annual Progress Reports	By March 1 of each calendar year.	XII.A.

Table V

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 15 days after discovery.	III.A.
SWMU/AOC Assessment Work Plan	Within 30 calender days of notice by the Department that a work plan is required.	III.B.
SWMU/AOC Assessment Report	In accordance with the schedule in the approved SWMU/AOC Assessment Work Plan.	III.D.
Written notification of newly-identified releases from SWMU(s) and AOC(s).	No later than 15 days after discovery.	IV.A.
Newly-Identified Release Work Plan	Within 30 calender days of notice by the Department that a work plan is required.	IV.B.
Newly-Identified Release Report	In accordance with the schedule in the approved Newly-Identified Release Work Plan.	IV.D.
Stabilization Notification	Within 24 hours of discovery of need for stabilization.	V.A.

CONTINGENT SUBMITTAL REQUIREMENTS	DUE DATE	CORRECTIVE ACTION CONDITION
Stabilization not effective notification.	Within 10 calendar days of determination by the Permittee.	V.C.
RCRA Facility Investigation (RFI) Work Plan	Within 60 calendar days of notice by the Department that a RFI Work Plan is required.	VI.A.
RCRA Facility Investigation (RFI) Report	In accordance with the schedule in the approved RFI Work Plan.	VII.A.
Corrective Measures Study (CMS) Work Plan	Within 45 calendar days of notice by the Department that a CMS is required.	VIII.C.
Corrective Measures Study (CMS) Report	In accordance with the schedule in the approved CMS Work Plan.	IX.A.
Corrective Action Financial Assurance	Within 120 calendar days of modification of this Permit to include a final remedy and within 60 days following an increase in cost estimate.	XI.A. and B.

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CORRECTIVE ACTION FIGURE 1