

PART II  
EPA AUTHORIZATION UNDER THE HAZARDOUS AND  
SOLID WASTE AMENDMENTS OF 1984

Pursuant to Section 227 of the Hazardous and Solid Waste Amendments of 1984 (hereafter referred to as "HSWA"), 18 U.S.C. § 6926, the United States Environmental Protection Agency (hereafter referred to as "EPA") is granted authority to issue or deny permits or those portions of permits affected by the requirements established by HSWA. By this authority and pursuant to Sections 3001(g), 3001(h), 3002(b), 3004(d), and 3005 of the Resource Conservation and Recovery Act ("RCRA") as amended by HSWA, 42 USC §§6921(g), 6921(h), 6922(b), 6924(d), and 6925, EPA hereby grants Lone Star Industries, Inc., as the facility owner and operator (hereafter referred to as the "Permittee"), EPA ID Number MOD981127319, permission to perform activities required by HSWA at their facility located at 2524 South Sprigg Street, Cape Girardeau, Missouri, north latitude 37° 16' 003", west longitude 89° 32' 023", in accordance with the conditions of Part II of this Permit.

Part II of this Permit addresses other HSWA requirements as administered and enforced by EPA. Applicable regulations are found in 40 Code of Federal Regulations (CFR) Parts 260 through 264, 266, 268, 270, and 124, as specified in Part II of this Permit.

All regulations cited in Part II of this Permit refer to regulations in effect on the date of Part II of this Permit issuance. With the exception of regulations in existence at the time of Permit issuance and referenced in Part II of this Permit, the only other RCRA regulations applicable to this facility during the life of Part II of this Permit will be self-implementing regulations.

The Regional Administrator has delegated authority to perform all actions necessary to issue, deny, modify, or revoke and reissue Permits for owners and operators of hazardous waste treatment, storage, and disposal facilities pursuant to Section 3005 of RCRA to the Director of Region VII, Air, RCRA, and Toxics Division (hereafter referred to as "Director") or the Director's designated representative, by delegation No. R7-8-6, January 1, 1995.

Part II of this Permit is based on the assumption that the information applicable to the Permit, in the Permit application dated January, 1998 and the revisions dated February 2, 1998, are accurate and that the facility will be operated as specified in the application.

Any inaccuracies found in the application or other submitted information may be grounds for the, modification, revocation and reissuance, or termination of Part II of this Permit in accordance with 40 CFR §§ 270.41, 270.42, and 270.43, or for enforcement action pursuant to Section 3008 of RCRA, 42 U.S.C. § 6928. The Permittee must

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inform EPA of any deviation from or changes in the application that would affect the Permittee's ability to comply with Part II of this Permit.

Part II of this permit shall be issued at 12:01 AM on March 18, 1999 and shall remain in effect until 12:00 AM on March 18, 2009 unless revoked and reissued, terminated or continued in accordance with 40 CFR §§270.41, 270.43, and 270.51. It shall remain in effect even if Part I is terminated or has expired.

Done at Kansas City, Kansas, this 16th day of February, 19 99.

[Original signed by William A. Spratlin]

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William A. Spratlin  
Director, Air, RCRA, and Toxics Division

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A. DEFINITIONS

For purposes of Part II 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 Part II of this Permit specifically provides otherwise. Where terms are not defined in RCRA, the regulations, the Permit or EPA guidances 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.

“Approved Permit Application” means the permit application that was submitted by Lone Star Industries, Inc. dated January 1998, the revisions dated February 2, 1998, the additional items submitted under the “Part I Permit Condition F., Schedule of Compliance,” and the information submitted in support of the Permittee’s comments on the draft permit, dated August 20, 1998.

“Director” means the Director of EPA Region VII, Air, RCRA, and Toxics Division (hereafter referred to as "Director") or the Director's designated representative in accordance with delegation No. R7-8-6, January 1, 1995.

"Hazardous waste" means any solid waste as defined in 40 CFR §261.2 which also meets any of the criteria of a hazardous waste as listed in 40 CFR §261.3.

B. STANDARD CONDITIONS

B.1. Submittal of Permit Requirements

- a. Failure to submit the information required in Part II of this Permit, or falsification of any submitted information, is subject to enforcement and/or termination of II of this Permit by the EPA pursuant to Section 3008 of RCRA, 42 U.S.C. § 6928 and 40 CFR 270.43.
- b. The Permittee shall ensure that all plans, reports, notifications, and other submissions to the Director required in Part II of this Permit are signed and certified in accordance with 40 CFR §§270.11 and 270.30(k).
- c. Extensions of the due dates specified in Part II of this Permit may be granted by the Director in accordance with the Permit modification procedures set forth in 40 CFR §270.42.

- d. Unless otherwise specified, two copies of these plans, reports, notifications or other submissions shall be submitted to the EPA and sent by certified mail or hand delivered to:

U.S. EPA, Region 7  
Attn: Chief, RCRA Permits and Corrective Action Branch  
Air, RCRA, and Toxics Division  
726 Minnesota Avenue  
Kansas City, KS 66101

In addition, one copy of these plans, reports, notifications or other submissions shall be submitted to:

Missouri Department of Natural Resources  
Hazardous Waste Program  
P.O. Box 176  
Jefferson City, MO 65102

B.2. Permit Modification, Revocation and Reissuance, and Termination

- a. Part II of this Permit may be modified, revoked and reissued, or terminated for cause, as specified in 40 CFR §§270.41, 270.42, and 270.43.
- b. If the Director determines that further actions beyond those required in Part II of this Permit, or changes to the requirements set forth herein, are warranted, the Director may modify Part II of this Permit in accordance with 40 CFR §270.41.
- c. Pursuant to the provisions of 40 CFR §270.42, the Permittee may request a modification of Part II of this Permit at any time.
- d. Modifications to Part II of this Permit do not constitute a reissuance of the Permit. The filing of a request for a Permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any condition in Part II of this Permit.

### B.3. Permit Renewal

- a. Part II of this Permit may be renewed as specified in 40 CFR §270.30(b). Review of any application for a Permit renewal shall consider improvements on the state of control and measurement technology, as well as changes in applicable regulations.
- b. If the Permittee wishes or is required to continue an activity regulated by Part II of this Permit after the expiration date of Part II of this Permit, the Permittee shall submit a complete application for a new permit prior to the expiration of Part II of this Permit. Such application must be submitted at least 180 calendar days prior to Permit expiration unless permission for a later submission date has been granted by the Director.

### B.4. Transfer of Permits

Part II of this Permit is not transferable to any person or entity until such a time as Part II of this Permit has been modified or revoked and reissued to identify the proposed new owner or operator of the facility (hereafter referred to as "New Permittee") and to incorporate such other requirements as may be necessary, all in accordance with the procedures set forth in 40 CFR Part 270, Subpart D. At least 90 calendar days prior to the anticipated date of transfer, the New Permittee shall submit to the Director: 1) a revised Permit application; and 2) a copy of the written agreement between the Permittee and the New Permittee, containing the specific date for transfer of the Permit responsibilities described herein. The Permittee and the New Permittee shall also comply with the financial requirements as more specifically set forth in 40 CFR §270.40 and 40 CFR Part 264 Subpart H. It shall be the Permittee's responsibility to notify the New Permittee in writing of the requirements of 40 CFR Parts 264 and 270 and Part II of this Permit. In the event that Part II of this Permit is not modified or revoked and reissued to identify the proposed new owner or operator of the facility, the Permittee shall conduct final closure in accordance with the closure plan submitted with the approved permit application prior to transfer of facility ownership or operational control.

B.5. Severability

The provisions of Part II of this Permit are severable, and if any provision of Part II of this Permit, or the application of any provision of Part II of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of Part II of this Permit shall not be affected thereby.

B.6. Appeal of a Permit

Part II of this Permit may be appealed pursuant to the provisions of 40 CFR §124.19(a), which provides, in pertinent part, as follows:

Within 30 calendar days after a RCRA final Permit decision has been issued under 40 CFR §124.15, any person who filed comments on that draft Permit or participated in the public hearing may petition the Environmental Appeals Board, in writing, to review any condition of the Permit decision. Any person who failed to file comments or failed to participate in the public hearing on the draft Permit may petition for administrative review only to the extent of the changes from the draft to the final Permit decision. The 30-day period within which a person may request review under this section begins with the service of notice of the Regional Administrator's action unless a later date is specified in that notice. The petition shall include a statement of the reasons supporting that review, including a demonstration that any issues being raised were raised during the public comment period (including any public hearing) to the extent required by these regulations and when appropriate, a showing that the condition in question is based on:

- (1) A finding of fact or conclusion of law which is clearly erroneous; or
- (2) An exercise of discretion or an important policy consideration which the Environmental Appeals Board should, in its discretion, review.

B.7. Duty to Comply

The Permittee shall comply with all conditions in Part II of this Permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit (see 40 CFR §270.61). Any noncompliance with Part II of this Permit, other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and

Part II of this Permit and is grounds for enforcement action; for Permit modification, revocation and reissuance, or termination; or for denial of a Permit renewal application.

**B.8. Need to Halt or Reduce Activity Not a Defense**

In any enforcement action, it shall not be a defense for the Permittee to establish that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of Part II of this Permit.

**B.9. Duty to Mitigate**

In the event of noncompliance with Part II of this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

**B.10. Proper Operation and Maintenance**

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

**B.11. Duty to Provide Information**

The Permittee shall furnish to the Director, within a reasonable time specified by the Director, any relevant information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating Part II of this Permit, or to determine compliance with Part II of this Permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by Part II of this Permit.

#### B.12. Inspection and Entry

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

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

#### B.13. Monitoring and Records

- a. The Permittee shall retain all records required by Part II of this Permit, the certification required by 40 CFR §264.73(b)(9), and records of all data used to complete the application for Part II of this Permit, for a period of at least three years from the date of the sample, measurement, report, record, certification, or application. This period may be extended by request of the Director at any time and is automatically extended during the course of any disputed matter including any unresolved enforcement action (as contemplated by Section 3008 of RCRA, 42 U.S.C. §6928 and 40 CFR 270.43) regarding this facility.
- b. Pursuant to 40 CFR §270.30(j)(3), records of monitoring information shall specify:
  - (1) The dates, exact place, and times of sampling or measurements;

- (2) The individuals who performed the sampling or measurements;
- (3) The dates analyses were performed;
- (4) The individuals who performed the analyses;
- (5) The analytical techniques or methods used; and
- (6) The results of such analyses.

#### B.14. Reporting Planned Changes

The Permittee shall give 20 calendar days advanced notice to the Director of any physical alterations or additions to the portions of the facility subject to Part II of this Permit, except for those alterations or additions for which notice is required by Part I of this Permit.

#### B.15. Reporting Noncompliance

- a. The Permittee shall give 20 calendar days advanced notice to the Director of any planned changes in the Permitted facility or activities required by Part II of this Permit which may result in noncompliance with the requirements of Part II of this Permit.
- b. The Permittee shall report to the Director any noncompliance with Part II of this Permit which may endanger health or the environment.

Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. The report shall include the following:

- (1) Information concerning release of any hazardous waste and/or hazardous constituent that may cause an endangerment to public drinking water supplies; and
- (2) Any information of a release or discharge of hazardous waste and/or a hazardous constituent, or of a fire or explosion from the hazardous waste management facility,

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

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

B.16. Other Information

Whenever the Permittee becomes aware of the failure to submit any facts in the Permit application relevant to this Permit or the submittal of incorrect information in the Permit application, or in any report to the Director, the Permittee shall promptly submit such facts or information.

B.17. Incorporations to the Permit

Any plans and schedules required by the conditions of Part II of this Permit are, upon approval of the Director, enforceable under Part II of this Permit. Any noncompliance with such approved plans and schedules shall constitute noncompliance with Part II of this Permit.

B.18. Dispute Resolutions

- a. If the Permittee disagrees, in whole or in part, with any EPA disapproval, modification, or other decision or directive made by the EPA pursuant to the provisions of Part II of this Permit, the Permittee shall notify the EPA in writing of any objections and the basis for them within fifteen calendar days of receipt of EPA's disapproval, decision, or directive. The notice shall set forth the specific points of the dispute, the position the Permittee maintains should be adopted as consistent with the requirements of Part II of this Permit, the factual and legal basis for the Permittee's position, and all matters the Permittee considers necessary for the EPA's determination. The EPA and the Permittee shall then have an additional thirty calendar days from the receipt of the Permittee's objection to attempt to resolve the dispute. If agreement is reached, the resolution will be reduced to writing by EPA and shall become part of Part II of this Permit. If the parties are unable to reach complete agreement within this 30-day period, the matter will be submitted for resolution to the Director. If requested by the Permittee, the Director may, at his or her discretion, agree to meet with the Permittee. The Director's resolution shall become an enforceable part of Part II of this Permit. The Director shall notify the Permittee in writing of the resolution of the dispute, and the reasons for this resolution.
- b. The existence of a dispute as defined herein and EPA's consideration of such matters as placed in dispute shall not

excuse, toll or suspend any obligation or deadline required pursuant to Part II of this Permit, that is not the subject of dispute, during the pendency of the dispute resolution process.

C. FACILITY-SPECIFIC CONDITIONS

C.1. Land Disposal Restrictions

- a. The Permittee must comply with all regulations implementing the land disposal restrictions required in 40 CFR Part 268. The Permittee also must comply with regulations implementing the land disposal restrictions that are promulgated after the effective date of Part II of this Permit, as these requirements are self-implementing provisions of HSWA. The Permittee is not subject to the land disposal restrictions if the applicable treatment standard is met, the waste is exempt under 40 CFR §268.1(c), the waste is subject to a variance, or any other exemption if 40 CFR Part 268 applies.
- b. If allowed in the State Permit (Part I), the Permittee may store wastes to which the land disposal restriction applies for up to one year unless EPA can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal as provided in 40 CFR §268.50(b). For storage of hazardous waste to which the land disposal prohibition applies beyond one year, however, the Permittee shall bear the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal as provided in 40 CFR §268.50(c).

C.2. Air Emission Standards for Tanks, Surface Impoundments, and Containers

The permittee shall comply with the applicable requirements of 40 CFR Part 264 subpart CC, as amended October 4, 1996, effective December 6, 1996, for all units identified in Table 1.

Table 1 - Units Subject to Subpart CC Standards

Unit Identification	Unit Type	Subpart CC Control Option
Drum Processing Building	Containers	Closed-vent system with industrial furnace operating in accordance with 40 CFR 266.102 as control device
Drum Processing Dispenser tank	Tanks	Closed-vent system with industrial furnace operating in accordance with 40 CFR 266.102 as control device
Tanks #1-#6	Tanks	Closed vent system with carbon canister adsorption system as control device

D. INDUSTRIAL FURNACE CONDITIONS

D.1. Description of Industrial Furnace

The industrial furnace consists of a dry-process rotary cement kiln with a 4-stage preheater, a precalciner, a bypass duct, and an air pollution control system consisting of a bypass duct baghouse, a spray tower, a main baghouse, and an exhaust stack. Both liquid and solid hazardous waste are burned as supplemental fuels in the kiln. Liquid hazardous waste is burned via injection with a burner pipe. Solid hazardous wastes are packaged in small containers which are injected into the kiln with a pneumatic feed system.

D.2. Limitations of Hazardous Wastes

The Permittee may only burn hazardous waste identified in the approved permit application, in the pertinent part of the Part A application, as specified in Part II of this Permit and only under the terms of Part II of this Permit. The MDNR has not adopted into its state regulations some of the hazardous wastes identified in the approved permit application. Also, while other wastes have been adopted as hazardous waste under state regulations, MDNR has not yet been authorized to regulate these wastes in lieu of EPA. Therefore, any wastes identified in the approved permit application which have not yet been adopted by or delegated to MDNR

are specifically incorporated in Part II of this Permit, and are specifically authorized for treatment (e.g., burning) or storage by EPA.

Hazardous wastes not specified in the approved permit application may not be burned until operating conditions have been specified under a new permit or permit modification, as applicable.

#### D.3. Hazardous Waste Analysis

The Permittee shall conduct sampling and analysis as described the approved permit application, in the pertinent part of the waste analysis plan, to ensure that the hazardous waste, other fuels, and industrial furnace feed stocks fired into the cement kiln are within the physical and chemical composition limits specified in part II of this Permit.

#### D.4. Compliance with Regulations

For the purposes of permit enforcement, compliance with the operating requirements specified in Part II of this Permit shall be regarded as compliance with the standards of 40 CFR §§266.104 - 107. However, when the Director receives any information that indicates that compliance with those permit conditions is insufficient to ensure compliance with the standards of 40 CFR §§266.104 - 107, he or she may determine that cause exists for modification or revocation and reissuance of Part II of this Permit in accordance with 40 CFR 270.41 so that compliance with the new permit conditions will ensure compliance with the standards found at 40 CFR §§266.104 - 107 or if compliance cannot be achieved, then termination in accordance with 40 CFR 270.43.

#### D.5. Emission Standards

The Permittee shall maintain the cement kiln, 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 Part II of this Permit, they will meet the following emission standards:

- a. The cement kiln shall achieve a destruction and removal efficiency (hereafter referred to as DRE) of 99.99 percent for each of the following principal organic hazardous constituents (hereafter

referred to as POHCs) designated in Part II of this Permit, and listed below, for each hazardous waste feed:

- (1) 1,2,4-trichlorobenzene; and
- (2) Tetrachloroethylene

The DRE shall be determined using the method specified in 40 CFR §266.104(a)(1).

- b. The industrial furnace shall not emit particulate matter in excess of 0.08 grains per dry standard cubic foot of stack gas when corrected for seven percent by volume of oxygen in the stack gas, in accordance with the formula specified at 40 CFR 266.105(a).
- c. Pursuant to 40 CFR §266.102(e)(4)(ii)(A), the emissions from the industrial furnace shall not be in excess of the following limits demonstrated during the trial burn:

Table 2 - Metals Emissions Limits

Metal	Emission Limit (lb/hr)
Lead	3.36E-03
Arsenic	4.48E-04
Beryllium	5.88E-05
Cadmium	9.01E-4
Chromium	1.05E-03

- d. The Permittee shall control combined hydrogen chloride (hereafter referred to as HCL) and chlorine emissions from the industrial furnace such that the rate of emissions is no greater than 84.2 pounds per hour of HCL and 1.02 pounds per hour of chlorine, as required by 40 CFR §266.102(e)(5)(ii)(A).

#### D.6. Operating Requirements

The following operating requirements are established to ensure conformance with the emission standards set forth in Part II of this Permit. The Permittee must operate the kiln in accordance with the operating requirements specified in Part II of this Permit at all times when there is hazardous waste in the industrial furnace. Failure to do so is a violation of Part II of this Permit and may be grounds for enforcement action or termination of Part II of this Permit pursuant to Section 3008 of RCRA, 42 U.S.C. § 6928 or 40 CFR 270.43, respectively.

Hazardous wastes shall not be introduced into the industrial furnace unless the operating conditions in D.6. 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 Part II of this Permit. The Permittee shall cease burning hazardous waste when changes in combustion properties, or feed rates of the hazardous waste, other fuels, or industrial furnace feed stocks, or changes in the design or operating conditions of the industrial furnace deviate from the limits specified in Part II of this Permit, as required by 40 CFR §266.102(e)(7)(iii).

##### a. Feed Limitations

- i. The Permittee may burn only the hazardous wastes identified in the approved permit application, in the pertinent part of the Part A permit application, in accordance with the following feed limitations.

Pursuant to 40 CFR § 266.102(e)(4), the hourly rolling average (HRA), as defined in 40 CFR §266.102(e)(6)(i)(B), chlorine and metal feed rates to the kiln shall not exceed the rates in Table 3, which are expressed in pounds per hour:

Table 3 - Maximum Chlorine and Metal Feed Rates

Compound	Emission Limit Basis	Total Feedstreams (lb/hr)	Total Hazardous Waste Feed (lb/hr)	Total Pumpable Hazardous Waste Feed (lb/hr)
Antimony	Tier 1A	47.4	NA	NA
Barium	Tier 1A	7900	NA	NA
Mercury	Tier 1A	47.4	NA	NA
Silver	Tier 1A	474	NA	NA
Thallium	Tier 1A	79	NA	NA
Lead	Tier 3	18	14.6	14.6
Arsenic	Tier 3	5.53	3.82	3.82
Beryllium	Tier 3	0.25	0.06	0.06
Cadmium	Tier 3	5.22	4.88	4.88
Chromium	Tier 3	23.7	13.5	13.5
Chlorine	Tier 3	744	576	576

The Permittee shall monitor the feed rate of metals and chlorine/chloride in each feed stream to ensure that the feed rate limits set forth above are not exceeded. Monitoring of metals and chlorine feed rates shall be accomplished by implementing Section 24 of the approved permit application.

- ii. The annual average total feedstream metal feed rates to the kiln shall not exceed the rates in Table 4, which are expressed in pounds per hour:

Table 4 - Annual Average Total Feedstream Metal Feed Rate Limits

Compound	Feed Rate Limit (lbs/hr)
Mercury	22.6
Silver	58.1

- iii. The Permittee shall document and report the annual average total feedstream metal feed rates for each Tier 1A metal in Permit Condition D.6.a.ii, Table 4. Annual averages shall be determined each calendar year. The first year for which documentation must be maintained is 1999, i.e., January 1, 1999 to December 31, 1999. The annual average total feedstream metal feed rate limits shall be determined for each metal as follows:

$$\text{Annual Average Total Feedstream Metal Feed Rate} = \frac{\text{Total Mass of Metal Burned}}{\text{Total Hours of Hazardous Waste Burning}}$$

The Permittee shall submit a report to document the annual average total feedstream metal feed rates by March 1 of the following year, i.e., the first report for 1999 is due on March 1, 2000. This report shall include a summary of all feedstreams burned by the Permittee identifying the concentrations of metals measured, dates of analyses, and mass of feedstreams burned and hours of waste burning. As an alternative, the Permittee may submit a paper and electronic copy of a spreadsheet used to determine annual average total feedstream metal feed rates.

In addition, the Permittee shall maintain, and make available for inspection, the running average of these annual average total feedstream metal feed rates. This running average shall be updated on, at minimum, a ninety (90) calendar day basis. Calculation of the running average shall be completed and available for inspection thirty (30) days after the close of each 90 calendar day period.

b. Automatic Waste Feed Cut-offs (AWFCO)

While burning hazardous waste, the industrial furnace 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 Part II of this Permit is not met.

The minimum fourth stage inlet gas temperature specified in Part II of this Permit shall be maintained at all times while hazardous waste or hazardous waste residues remain in the combustion chamber, as required by 40 CFR §266.102(e)(7)(ii)(A).

Exhaust gasses must exit through the baghouses which shall be operated in accordance with the requirements specified in Part II of this Permit while hazardous waste or hazardous waste residues remain in the industrial furnace, as required by 40 CFR §266.102(e)(7)(ii)(B).

All operating conditions for which limits are established in Part II of 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 industrial furnace is operating under all conditions specified Part II of this Permit.

- (1) The raw material feed rate to the industrial furnace monitored as specified in Permit Condition D.7 shall not exceed 330 tons per hour on an hourly rolling average (HRA) basis, as defined in 40 CFR §266.102(e)(6)(i)(B).
- (2) The pumpable hazardous waste feed rate monitored as specified in Permit Condition D.7 shall not exceed 340.1 pounds per minute on an hourly rolling average (HRA) basis, as defined in 40 CFR §266.102(e)(6)(i)(B).
- (3) The total hazardous waste feed rate monitored as specified in Permit Condition D.7 shall not exceed 361.2 pounds per minute on an hourly rolling average (HRA) basis, as defined in 40 CFR §266.102(e)(6)(i)(B).

- (4) The fourth stage inlet gas temperature, monitored as specified in Permit Condition D.7, shall be used as an indicator of combustion chamber temperature and shall not be less than 1603°F or greater than 1735°F on an hourly rolling average (HRA) basis, as defined in 40 CFR §266.102(e)(6)(i)(B).
- (5) The Permittee shall comply with the requirements of 40 CFR §266.102(e)(7)(i), to prevent fugitive emissions, by ensuring that no hazardous wastes are introduced into the industrial furnace when the differential pressure between the combustion gas discharge end of the kiln and the kiln hood is greater than -0.25 inches water column as averaged over a period of 60 continuous seconds, measured as specified in Permit Condition D.7.
- (6) The inlet gas temperature of the main baghouse, monitored as specified in Permit Condition D.7. shall not exceed 356°F on an hourly rolling average (HRA) basis, as defined in 40 CFR §266.102(e)(6)(i)(B).
- (7) The pressure difference across the main baghouse, monitored as specified in Permit Condition D.7., shall not be less than 3 inches of water column (W.C.) on an instantaneous basis, as defined in 40 CFR §266.102(e)(6)(i)(A).
- (8) The inlet gas temperature of the by-pass baghouse, monitored as specified in Permit Condition D.7., shall not exceed 441°F on an hourly rolling average (HRA) basis, as defined in 40 CFR §266.102(e)(6)(i)(B).
- (9) The pressure difference across the by-pass baghouse monitored as specified in Permit Condition D.7. shall not be less than 3 inches of water column (W.C.) on an instantaneous basis, as defined in 40 CFR §266.102(e)(6)(i)(A).
- (10) The hourly rolling average (HRA) concentration, as defined in 40 CFR §266.102(e)(6)(i)(B), of carbon monoxide, monitored as specified in Permit Condition D.7. shall not

exceed 2825 parts per million on a volume basis (ppmv), corrected to seven percent oxygen on a dry basis.

- (11) The hourly rolling average (HRA) concentration, as defined in 40 CFR §266.102(e)(6)(i)(B), of total hydrocarbons monitored as specified in Permit Condition D.7. shall not exceed 20 ppmv, corrected to seven percent oxygen on a dry basis.

In the event that the operating conditions set out in Industrial Furnace Conditions D.6.b.(1)-(11) above are not met at any time when hazardous waste is present in the industrial furnace, an automatic waste feed cut off shall be activated immediately, and the Permittee shall cease burning hazardous waste in the industrial furnace until such time as the operating conditions specified for the industrial furnace are again being met. Table 5 is a listing of the automatic waste feed cut-offs required by Industrial Furnace Conditions D.6.b.(1)-(11) above, describing the parameters and limits that shall activate the automatic hazardous waste feed cut-off mechanism as described in the approved permit application.

Table 5 - Automatic Waste Feed Cut-off Limits

OPERATING PARAMETER	CUT-OFF LIMIT	LOCATION OF MONITORING DEVICE
Maximum Raw Material Feed	330 Tons per Hour (HRA)	impact flow meters on first stage preheater
Maximum Pumpable Hazardous Waste Feed	340.1 Lbs. per minute(HRA)	hazardous waste feed line on burner floor
Maximum Total Hazardous Waste Feed	361.2 Lbs. per minute (HRA)	hazardous waste feed line on burner floor and container feed
Minimum fourth stage inlet gas temperature	1603 °F (HRA)	Gas Inlet at fourth stage of preheater.
Maximum fourth stage inlet gas temperature	1735 °F (HRA)	Gas Inlet at fourth stage of preheater

OPERATING PARAMETER	CUT-OFF LIMIT	LOCATION OF MONITORING DEVICE
Maximum Kiln differential pressure	-0.25 in (W.C.) (one minute average)	Feed end and burner hood
Maximum Main baghouse inlet temperature	356 °F (HRA)	baghouse inlet
Minimum Main baghouse differential pressure	3 in (W.C.) (Instantaneous)	baghouse inlet and exit
Maximum by-pass baghouse inlet temperature	441 °F (HRA)	baghouse inlet
Minimum by-pass baghouse differential pressure	3 in (W.C.) (Instantaneous)	baghouse inlet and exit
Maximum CO emission rate	2808 ppmv (HRA, 7% O <sub>2</sub> Dry Basis)	By-pass duct
Maximum THC emission rate	20 ppmv (HRA, 7% O <sub>2</sub> Dry Basis)	By-pass duct

The Permittee shall submit to the Director a quarterly report which describes the number of automatic waste feed cut-offs and their causes within the current reporting period. Each Quarterly Automatic Waste Feed Cut-Off Report shall be due thirty (30) calendar days after the last day of each calendar quarter, i.e., April 30, July 30, October 30 and January 30. The first quarter for which a report is due is the first quarter in which Part II of this Permit becomes effective. These reports shall be made available for public viewing in an information repository established at the Cape Girardeau Public Library, pursuant to 40 CFR § 270.30(m).

D.7. Monitoring and Inspection

- a. The Permittee shall maintain, calibrate, and operate continuous monitors which monitor and record the parameters used to verify compliance with the operating conditions (in the same units as those operating conditions) specified I part II of this Permit and any one minute averages used to calculate hourly rolling averages.

The continuous process monitoring instruments are specified in Table 6 of Part II of this Permit.

- b. For purposes of Part II of this Permit, the following terms shall have the meanings stated herein.

"Continuous monitor" shall be defined as one which continuously samples the regulated parameter without interruption, evaluates the detector response at least once every 15 seconds, computes and records a one minute average value for the parameter, and, where required by Part II of this Permit, uses the one minute average values to calculate an hourly rolling average for the parameter. For carbon monoxide and total hydrocarbon values, the one minute average value parameter shall be corrected to 7% oxygen on a dry basis using the formulas listed below.

$$CO_{corr} = \frac{CO_a * 13.9}{20.9 - O_{2a}}$$

where  $CO_{corr}$  = Carbon monoxide concentration corrected to 7% oxygen,

$CO_a$  = One minute average Carbon monoxide value from a minimum of four detector responses, and

$O_{2a}$  = Actual one minute average Oxygen value from a minimum of four detector responses.

$$THC_{dry} = \frac{THC_{wet}}{1 - \frac{\%H_2O}{100}}$$

where  $THC_{dry}$  = Total Hydrocarbon concentration on a dry basis,

$THC_{wet}$  = One minute average Total Hydrocarbon value on a wet basis from a minimum of four detector responses, and

$\%H_2O$  = percentage of water in gas stream, a value of 5 shall be used as a conservative value.

$$THC_{corr,dry} = \frac{THC_{dry} * 13.9}{20.9 - O_{2a}}$$

where  $THC_{corr,dry}$  = Total Hydrocarbon concentration on a dry basis, corrected to 7% Oxygen.

"One minute average" value shall be defined as the arithmetic mean of a minimum of four valid detector response values obtained within a 60- second period, and corrected where required by using the formulas listed above.

"Hourly rolling average" shall be defined as the arithmetic mean of the 60 most recent one minute average values recorded by the continuous monitoring system.

"Instantaneous" AWFCO limits shall trigger a fuel cut-off when the one minute average for the specified parameter exceeds the limit listed in Table 5 of Part II of this Permit.

"Continuously record" shall mean that at least 95% of the values of each operating limit required to be monitored by Part II of this Permit, in any 60 minute period during which hazardous waste is introduced into the industrial furnace, shall be accurately recorded in the Permittee's operating record. Except during instrument calibration periods as specified below or AWFCO testing of a CEM, the Permittee shall continuously record all data monitored by the instruments described in Table 6 of Part II of this Permit. All monitors shall record data in units corresponding to the limits specified in the operating conditions set out in Part II of this Permit unless otherwise specified.

- c. Hazardous waste may continue to be introduced into the industrial furnace during daily continuous emission monitor system (CEMS) calibration check periods as described the approved permit application. The CEMS shall be maintained according to the following schedule: (1) at least daily, a calibration check of the instrument; (2) at least daily, a system audit; (3) at least quarterly, a calibration error test; and, (4) at least annually, a performance specification test.

For purposes of compliance with Part II of this Permit, quarterly shall refer to calendar quarters. In addition, successive quarterly calibration error tests must be at least thirty (30) days apart.

For purposes of compliance with Part II of this Permit, annual performance specification testing must occur within  $\pm$  sixty (60) days of September 30.

- d. Proper operation of the automatic waste feed cut-off mechanisms shall be verified at least once every seven (7) days such that no fewer than three (3) and no more than eleven (11) days pass between tests by simulating an exceedance of the operating limit for each operating parameter listed in Table 5 of Part II of this Permit as described in the approved permit application. In the event that the hazardous wastes have not been introduced into the BIF for a period of time exceeding seven (7) days, proper operation of the automatic waste feed cut-off mechanisms shall be verified prior to their introduction into the BIF. The results of verification of proper operation of the automatic waste feed cut-off mechanisms shall be recorded and placed in the operating log. In the case of any malfunction of the automatic waste feed cut-off system, the Permittee shall immediately cease feeding hazardous waste to the industrial furnace and shall not restart hazardous waste feed until the malfunction of the automatic waste feed cut-off system is located and corrected.
- e. Carbon monoxide and oxygen shall be continuously monitored in conformance with "Performance Specifications for Continuous Emission Monitoring of Carbon Monoxide and Oxygen for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste" in 40 CFR Part 266, Appendix IX, Section 2.1. The Permittee shall institute an automatic waste feed cut-off any time

the measured concentration of carbon monoxide is below the value allowed for "zero" calibration gases.

- f. For purposes of Part II of this Permit, "like for like" replacement of a CEMS component shall mean that the component has been replaced with a component of the same make/model/version, a component of identical or superior performance specifications or another component recommended by the manufacturer. Like for like replacements will not require permit modification so long as adequate records of such replacements are maintained to demonstrate the like for like nature of the component.

For the purposes of Part II of this Permit, "reconfiguration" of the CEM system is a substantive change in the structure or design of the system.

- g. For CEM system hardware/software utilized for collection, reduction and recording of compliance data, any replacement or reconfiguration shall require a daily calibration check, system audit and data audit to verify the new or reconfigured components are operating properly. None of these actions shall require a permit modification.
- h. For CEM system gas collection system (including the conditioning system), any replacement or reconfiguration shall require a daily calibration check, system audit and data audit to verify that the new or reconfigured components are operating properly. In addition, any reconfiguration or replacement that is not like for like shall require a performance specification test required in 40 CFR 266, Appendix IX be completed within forty-five (45) days to demonstrate total system integrity. The Permittee may request by Class 1 permit modification requiring approval of the Director (in accordance with 40 CFR 270.42(a)) an alternative performance specification testing. All reconfigurations or replacement that is not like for like shall require a class 1 permit modification in accordance with 40 CFR 270.42(a) within 7 days of implementing the change.
- i. For the CEM analyzer/detector/sensor, any replacement or reconfiguration shall require a daily calibration check, system audit and data audit to verify that the new or reconfigured components are operating properly. In addition, any reconfiguration or

replacement that is not like for like shall require a performance specification test required in 40 CFR 266, Appendix IX be completed within forty-five (45) days to demonstrate total system integrity. The Permittee may request by Class 1 permit modification requiring approval of the Director (in accordance with 40 CFR 270.42(a)) an alternative performance specification testing.

All reconfigurations or replacement that is not like for like shall require a class 1 permit modification in accordance with 40 CFR 270.42(a) within 7 days of implementing the change.

- j. Hydrocarbons shall be continuously monitored in conformance with "Performance Specifications for Continuous Emission Monitoring of Hydrocarbons for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste" 40 CFR Part 266, Appendix IX, Section 2.2. The Permittee shall institute an automatic waste feed cut-off any time the measured concentration of hydrocarbons is below the value allowed for "zero" calibration gases.
- k. As described in the approved permit application, the Permittee may comply with the carbon monoxide and hydrocarbon limits specified in Special Permit Condition D.6. of Part II of this Permit by monitoring carbon monoxide and total hydrocarbons in the by-pass duct of the industrial furnace, as allowed by 40 CFR §266.104(f). A minimum of 10% of kiln off gas shall be diverted to the by-pass duct while compliance with carbon monoxide and total hydrocarbon limits is being demonstrated by monitoring in the by-pass duct.

Table 6 - Process Monitoring Instrumentation

Parameter	Instrument	Type	Range	Accuracy	Validation Interval (minimum)
Kiln Feed	Flow meter	Impact meter	0-300 TPH	± 0.1% of span	quarterly
Pumpable Hazardous Waste Feed	Flow meter	Mass flow meter	0-350 lb per minute	± 0.15%	quarterly
4th Stage Temperature	Thermocouple	Type K	1400-2000°F	±4°F	quarterly

Parameter	Instrument	Type	Range	Accuracy	Validation Interval (minimum)
Kiln Hood Pressure	Pressure tap	Bent tube	-1.0 to +0.25 in W.C.	± 0.1% of range	quarterly
Kiln Rear Pressure	Pressure tap	Bent tube	0 to -3 in W.C.	± 0.5% of span	quarterly
Main Baghouse Inlet Temperature	Thermocouple	Type K	0-1000°F	±4°F or 0.75% of range (greatest)	quarterly
Main Baghouse Differential Pressure	Pressure tap	Bent tube	0-20in W.C.	± 0.2% of calibration range	quarterly
By-pass Baghouse Inlet Temperature	Thermocouple	Type K	0-700°F	±4°F or 0.75% of range (greatest)	quarterly
By-pass Baghouse Differential Pressure	Pressure tap	Bent tube	0-20 in W.C.	± 0.2% of calibration range	quarterly
Carbon Monoxide	extractive Carbon Monoxide analyzer	Non-dispersive infrared (NDIR)	0-200 ppm 0-3000 ppm	± 0.5% of range	quarterly
Oxygen	Extractive oxygen analyzer	paramagnetic	0-25%	± 0.5% of range	quarterly
Total Hydrocarbons	extractive hydrocarbon analyzer	flame ionization detector	0-100 ppm	± 0.5% of calibrated range	quarterly

- I. The industrial furnace and associated equipment (pumps, valves, pipes, etc.) shall be subjected to thorough visual inspection when they contain hazardous waste, at least daily for leaks, spills, fugitive emissions, and signs of tampering, as specified the approved permit application.
- m. Pursuant to 40 CFR 266.102(e)(8)(i)(C), the Permittee shall upon request of the Director, conduct sampling and analysis of the

hazardous waste (and other fuels and industrial furnace feedstocks as appropriate), residues, and exhaust emissions to verify that the operating requirements established in Part II of this Permit achieve the applicable standards of 40 CFR §§ 266.104, 266.105, 266.106 and 266.107.

D.8. Direct Transfer of Hazardous Waste

The Permittee shall comply with the standards of 40 CFR 266.111 when transferring hazardous waste directly from a transport vehicle to the industrial furnace without use of a storage unit.

D.9. Regulation of Residues

- a. The Permittee shall sample and analyze cement kiln dust as described in Section 2 of the approved Permit application.
- b. Records sufficient to document compliance with the provisions of Section D.9 of Part II of this Permit shall be retained until closure of the industrial furnace as a hazardous waste burner. At a minimum, the following shall be recorded:
  - (1) The date and time of sampling;
  - (2) The individual(s) who performed the sampling;
  - (3) The date(s) analyses were performed;
  - (4) The individual(s) who performed the sampling; and
  - (5) Results of analyses.

D.10. Record Keeping

The Permittee shall record and maintain in the operating record of the facility all information and data required by or used to demonstrate compliance with 40 CFR 266.102 until closure of the facility.

D.11. Closure

At closure, the Permittee shall implement the closure plan contained in the approved permit application, and remove all hazardous waste and hazardous waste residues from the industrial furnace and associated systems. If any hazardous waste management units are removed from service prior to final closure of the facility, the Permittee shall implement the partial closure procedures described in the approved permit application.

D.12. Cost Estimate for Facility Closure

The Permittee shall adjust the cost estimate for facility closure, when necessary, by using the procedures described in the approved permit application as applicable for units operating under Part II of this Permit.

D.13. Financial Assurance and Liability Requirements

The financial assurance and liability requirements of the State Part I Permit are hereby incorporated reference as applicable for units operating under Part II of this Permit.

E. FACILITY SUBMISSION SUMMARY

Table 7. Summary of possible reporting requirements pursuant to Part II of this Permit.

CONDITIONAL REQUIREMENTS	DUE DATE	PERMIT CONDITION
Permit Renewal	180 calendar days prior to Part II Permit expiration	B.3.b.
Provisions for Part II Permit Transfer	90 calendar days prior to date of Part II Permit transfer	B.4.
Report Planned Changes	20 calendar days prior to making any physical alterations to any portion of the facility subject to Part II of this Permit, except when notice is required by the State Part I Permit	B.14.

CONDITIONAL REQUIREMENTS	DUE DATE	PERMIT CONDITION
Report Noncompliance	20 calendar days prior to making any changes which will result in noncompliance with Part II of this Permit	B.15.a.
Oral Notice of Noncompliance	Within 24 hours of Permittee's awareness of the circumstance	B.15.b.
Written Notice of Noncompliance	Within 5 calendar days of Permittee's awareness of the circumstance	B.15.d.
Annual Average Metals	March 1 of each year	D.6.a.iii.
AWFCO Report	Within 30 days of the first day of each calendar quarter	D.6.b.

F. FACILITY COMPLIANCE SCHEDULE

1. Revisions to the approved permit application documenting recent modifications to the facility to increase clinker production capacity are due 90 days after the effective date of this Part II Permit.