

## PART 70

# PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth here in.

**Operating Permit Number:** OP2006-011B  
**Expiration Date:** DEC 16 2012  
**Installation ID:** 099-0003  
**Project Number:** 099-0003-020

### Installation Name and Address

The Doe Run Company – Smelter Division  
881 Main Street  
Herculaneum, MO 63048  
Jefferson County

### Parent Company's Name and Address

The Doe Run Resources Corp.  
1801 Park 270 Drive, Suite 300  
St. Louis, MO 63146

This installation is a primary lead smelter. Lead concentrates from mines, fluxes and recycled lead bearing materials from the plant are mixed and then roasted in the sinter machine. A major portion of the sulfur in the concentrate is burned to sulfur dioxide during the roasting and a majority is converted to 93 % sulfuric acid in the acid plant. The sinter and coke are fed to one or two blast furnaces where the melted furnace charge is separated into slag and bullion. The bullion goes through drossing to remove primarily copper and other metals, then the bullion is transferred to the refining kettles to remove silver and zinc. The lead is cast into lead ingots and pigs, or alloys. A variety of enclosures, baghouses, an electrostatic precipitator, scrubbers and demisters are used as control devices. The installation is a major emitter of sulfur dioxide and lead pollutants.

DEC 17 2007

Effective Date

  
Director or Designee  
Department of Natural Resources

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## I) Installation Description and Equipment Listing

### INSTALLATION DESCRIPTION

This installation is a primary lead smelter. Lead concentrates from mines are received by truck and railcar. The concentrate is mixed with fluxes and recycled lead bearing materials from the plant, and is then roasted in the sinter machine. A major portion of the sulfur in the concentrate is burned to sulfur dioxide during the roasting and a majority is converted to 93 % sulfuric acid in the acid plant. The sinter and coke are fed to one or two blast furnaces. The melted furnace charge is separated into slag and bullion in the forehearth. The bullion goes through several drossing steps to remove primarily copper and other metals. The drossed bullion is transferred to the refining kettles and after silver and zinc are removed, the bullion is cast into lead ingots and pigs, or alloys. A variety of enclosures, baghouses, an electrostatic precipitator, scrubbers and demisters are used as control devices. The reported pollutant emissions for the installation in the past five years are listed below.

Reported Air Pollutant Emissions, tons per year							
Year	Particulate Matter ≤ Ten Microns (PM-10)	Sulfur Oxides (SO <sub>x</sub> )	Nitrogen Oxides (NO <sub>x</sub> )	Volatile Organic Compounds (VOC)	Carbon Monoxide (CO)	Lead (Pb)	Hazardous Air Pollutants (HAPs)
2006	27.2	44,306.6	24.64	2.90	25.21	28.42	0.19
2005	27.1	41,845.2	24.79	2.56	21.07	28.09	0.19
2004	25.22	16,679.7	24.30	2.72	22.47	25.95	0.25
2003	46.1	14,866.3	36.69	3.51	31.2	25.13	0.17
2002	86.6	15,223.4	21.42	2.43	21.11	58.81	0.58
2001	129.4	26,639.7	26.34	3.27	24.38	113.54	1.23
2000	154.8	28,833.4	27.76	3.35	25.07	139.80	1.51

### EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation which emit air pollutants and which are identified as having unit-specific emission limitations.

#### Emission Unit # Description of Emission Unit

EU0010	Conveyor 21/22 transfer
EU0020	Cage Packtor
EU0030	Conveyor 24/25 Transfer and Mix Drum
EU0040	Sinter Machine, Claw Breaker and CV-39 to Sinter Storage Bins
EU0050	Sinter Crushing and Screening
EU0060	Carrier Cooler
EU0070	Cooler B/H Fume Transfer
EU0080	76" Smooth Rolls
EU0090	Blast Furnace Charge Belts
EU0100	Two Blast Furnaces and Dross Kettles
EU0110	Blast Furnace and Dross Plant Building
EU0120	12 Refinery Kettles, Casting, and # 1 Trestle Sinter Transfer to Conveyor 10
EU0130	Refinery Building

EU0140	Strip Mill
EU0150	Barge Unloading Hopper and Conveyor
EU0160	Materials Handling Building Truck Loading
EU0170	Fugitive Dust - Plant Roadways, Materials Storage and Handling Areas Fugitives, Railcar Concentrate Unloading, Railcar Fume Unloading, Sinter Plant Building Unloading, Railcar Fume Loading from #5 B/H, Finish Sinter Railcar and Truck Loading, Concentrate Storage, Concentrate Unloading, Secondaries Storage, Secondaries Unloading, Blast Furnace Slag Storage, Blast Furnace Slag Unload, Sinter Storage, Sinter Transfer to #4 Trestle, Sinter Transfer to/from Storage Pile, Dross Loading and Unloading/Storage, Sinter Plant Mix Room Unloading and Secondaries Rail Car Loading, Sinter Machine Area Fugitives (Sinter Plant #3 B/H Roof Vent Fugitives), Furnace Area Fugitives (#5 B/H Roof Vent Fugitives), Refining and Casting Area Fugitives (Strip Mill Roof Vent Fugitives), and Fugitive Dust Plant Wide Resuspension
EU0180	Two 8- ton Silver Dross Liquation Kettles
EU0190	Silver Dross Upgrade Process
EU0200	Existing Indirect Heating Sources
EU0210	New Indirect Heating Sources
EU0220	Zep Solvent Cold Cleaners

#### **EMISSION UNITS WITHOUT LIMITATIONS**

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance.

EP043	South End Diesel Fuel Storage Tank 43, 12,000 gallon capacity
EP044	Yard Diesel Fuel Storage Tank 44, 450 gallon capacity
EP045	Yard RVP 10 Gasoline Storage Tank 45, 300 gallon capacity
EP049	Yard Diesel Fuel Storage Tank 49, 300 gallon capacity
EP052	Thawhouse Furnace Vent, pipeline natural gas fired, 5.05 MMBtu/hr
EP054	WWTP Lime Silo
EP067	Natural Gas Space Heaters, 10 MMBtu/hr

#### **DOCUMENTS INCORPORATED BY REFERENCE**

These documents have been incorporated by reference into this permit.

- 1) Construction Permit 0781-004A, Two Hot Water Boilers
- 2) Construction Permit 0386-006, Additional Roll Crusher
- 3) Construction Permit 1192-011, Redi-Mix Concrete Plant – Plant removed
- 4) Construction Permit 1098-018 and Project No. 2001-01-048, Silver Dross Upgrade Process, Induction Furnace, two Kettles and Hoppers
- 5) Construction Permit 1198-004, New Acid Plant Preheater
- 6) Construction Permit 1099-004, Lead Concentrate Barge Unloading System and Materials Building
- 7) Construction Permit 102000-028, Two, 8 ton Dross Liquidation Kettles
- 8) Construction Permit 092001-012, Coke Barge Unloading
- 9) Missouri State Implementation Plan for Doe Run-Herculaneum Primary Smelter, 2000 Revision
- 10) Attorney General CONSENT JUDGEMENT dated January 5, 2001
- 11) ADMINISTRATIVE ORDER ON CONSENT dated May 29, 2001
- 12) Attorney General CONSENT JUDGEMENT dated April 2007

- 13) The 2007 Revision of the State Implementation Plan for the Herculaneum Lead Nonattainment Area, adopted on April 26, 2007. This document contains the consent judgement, which is the source of the requirements in permit condition PW008. This document also contains the Work Practice Manual For Control of Lead Emissions. The work practice manual was written to comply with the Missouri Air Conservation Rule 10 CSR 10-6.120, Section (4), and is also intended to fulfill the obligation under paragraph B.7. of the 2007 SIP Consent Judgement which was entered as an element of the 2007 Revision of the State Implementation Plan (SIP) for the Herculaneum Lead Nonattainment Area. The Work Practice Manual is the method of determining compliance with the provisions of Doe Run's obligation under the rule and Consent Judgement. Failure on Doe Run's part to adhere to the work practices in the manual is a violation of the rule and Consent Judgement.

## II) Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements.

**Permit Condition PW001**  
**10 CSR 10-6.220**

**Restriction of Emissions of Visible Air Contaminants**

**Emission Limitation:**

- 1.) No person shall discharge into the atmosphere from any source any visible emissions with opacity greater than 20%.
- 2.) Exception: Sources existing on March 24, 1967 that are not incinerators and emit less than twenty-five (25) lbs/hr of particulate matter shall be limited to 40 percent (40%) opacity.
- 3.) Exception: Visible emissions of no more than 40 percent (40%) opacity shall be allowed for a period not aggregating more than one six-minute period in any sixty (60) minutes.

**Monitoring:**

- 1.) The permittee shall conduct opacity readings on this emission unit using the procedures contained in USEPA Test Method 22. Readings are only required when emission units are operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2.) The following monitoring schedule must be maintained:
  - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
  - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then
  - c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- 3.) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

**Record Keeping:**

- 1.) The permittee shall maintain records of all observation results noting:
  - a) Whether any air emissions (except for water vapor) were visible from the emission units,
  - b) All emission units from which visible emissions occurred, and
  - c) Whether the visible emissions were normal for the process.
- 2.) The permittee shall maintain records of any equipment malfunctions.
- 3.) The permittee shall maintain records of any Method 9 opacity test performed in accordance with this permit condition.
- 4.) Attachments A-1, A-2 and A-3 contain logs including these record keeping requirements. These logs, or an equivalent created by the permittee, must be used to certify compliance with this requirement.
- 5.) These records shall be made available immediately for inspection to Department of Natural Resources personnel upon request.
- 6.) All records shall be maintained for five years.

**Reporting:**

- 1.) The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test that the emission unit(s) exceeded the opacity limit.
- 2.) Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.

**Permit Condition PW002**  
**10 CSR 10-6.170**

**Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin**

**Emission Limitation:**

- 1) The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line or origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the director;
- 2) The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.
- 3) Should it be determined that noncompliance has occurred, the director may require reasonable control measures as may be necessary.

**Monitoring:**

- 1) The permittee shall conduct inspections of its facilities sufficient to determine compliance with this regulation. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. If a violation of this regulation is discovered, the source shall undertake corrective action to eliminate the violation.
- 2) The following monitoring schedule must be maintained:
  - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
  - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
  - c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner to the initial monitoring frequency.

**Recordkeeping:**

- 1) A log must be maintained noting the following:
  - a) Whether air emissions (except water vapor) remain visible in the ambient air beyond the property line of origin.
  - b) Whether the visible emissions were normal for the installation.

- c) Equipment malfunctions that could cause an exceedance of 10 CSR 10-6.170.
  - d) Any violations of 10 CSR 10-6.170 and any corrective actions undertaken to correct the violation.
- 2) Attachment B contains a log including these record keeping requirements. This log, or an equivalent created by the permittee, must be used to certify compliance with this requirement.

**Reporting:**

The permittee shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

**Permit Condition PW003  
10 CSR 10-6.075**

**Maximum Achievable Control Technology Regulations**

**40 CFR part 63, subpart TTT**

**National Emission Standards for Hazardous Air Pollutants from Primary Lead Smelting – Test Methods §63.1546**

**40 CFR part 63, subpart A**

**General Provisions – Performance Testing Requirements - § 63.7**

**40 CFR part 60, Appendix A**

**Appendix A to Part 60 – Test Methods**

10 CSR 10-6.120

**Restriction of Emissions of Lead From Specific Lead Smelter – Refinery Installations**

**Testing Requirements:**

- 1) Table 1 of 40 CFR part 63, subpart TTT specifies the provisions of subpart A that apply and those that do not apply to owners or operators of primary lead smelters subject to 40 CFR part 63, subpart TTT. The provisions of § 63.7 apply to subpart TTT. (§ 63.1541(b))
- 2) In conducting the performance tests required in § 60.8, the permittee shall use as reference and procedures the test methods in 40 CFR part 60, Appendix A. (§ 60.186)

**Test Methods – Lead Compounds:**

- 1) The following procedure shall be used to determine compliance with the emissions standard for lead compounds under § 63.1543(a): (§ 63.1546(a))
  - a) The lead compound emission rate, in units of grams of lead per hour, for each source listed in § 63.1543(a)(1) through § 63.1543(a)(9) shall be determined according to the following test methods in 40 CFR part 60, Appendix A: (§ 63.1546(a)(1))
    - i) Method 1 shall be used to select the sampling port location and the number of traverse points. (§ 63.1546(a)(1)(i))
    - ii) Method 2 shall be used to measure volumetric flow rate. (§ 63.1546(a)(1)(ii))
    - iii) Method 3 shall be used for gas analysis. (§ 63.1546(a)(1)(iii))
    - iv) Method 4 shall be used to determine moisture content of the stack gas. (§ 63.1546(a)(1)(iv))
    - v) Method 12 shall be used to measure the lead emission rate of the stack gas. The minimum sample volume shall be 0.85 dry standard cubic meters (30 dry standard cubic feet) and the minimum sampling time shall be 60 minutes for each run. Three runs shall be performed and the average of the three runs shall be used to determine compliance. (§ 63.1547(a)(1)(v))

- 1) The lead production rate, in units of megagrams per hour, shall be determined based on production data for the previous 12 calendar months according to the procedures detailed in § 63.1546(a)(2)(i) through § 63.1546(a)(2)(v): (§ 63.1546(a)(2))
  - a) Total lead products production multiplied by the fractional lead content shall be determined in units of megagrams. (§ 63.1546(a)(2)(i))
  - b) Total copper matte production multiplied by the fractional lead content shall be determined in units of megagrams. (§ 63.1546(a)(2)(ii))
    - i) Total copper speiss production multiplied by the fractional lead content shall be determined in units of megagrams. (§ 63.1546(a)(2)(iii))
    - ii) Total lead production shall be determined by summing the values obtained in § 63.1546(a)(2)(i) through § 63.1546(a)(2)(iii). (§ 63.1546(a)(2)(iv))
    - iii) The lead production rate, in units of megagrams per hour, shall be calculated based on the total lead production, as determined in accordance with § 63.1546(a)(2)(iv), divided by the total plant operating time, in hours, for the previous 12 months. (§ 63.1546(a)(2)(v))
- 2) The sum of lead compound emission rates for the sources in § 63.1543(a)(1) through § 63.1546(a)(9), as determined in accordance with § 63.1546(a)(2)(v), to obtain a production-based, lead compound emission rate in units of grams of lead per megagram of lead metal produced. The production-based lead compound emission rate shall be used to determine compliance with the emission standard for lead compounds under § 63.1543(a). (§ 63.1546(a)(3))

**Test Methods – Sinter Building In-Draft:**

- 1) The permittee shall perform an initial compliance test to demonstrate compliance with the sinter building in-draft requirements of § 63.1543(c) at each doorway opening in accordance with paragraphs §63.1546(b)(1) through § 63.1546(b)(4). (§ 63.1546(b))
  - a) Use a propeller anemometer or equivalent device. (§ 63.1546(b)(1))
  - b) Determine doorway in-draft by placing the anemometer in the plane of the doorway opening near its center. (§ 63.1546(b)(2))
  - c) Determine doorway in-draft for each doorway that is open during normal operation with all remaining doorways in their customary position during normal operation. (§ 63.1546(b)(3))
  - d) Do not determine doorway in-draft when ambient wind speed exceeds two meters per second. (§63.1546(b)(4))

**Permit Condition PW004**

**10 CSR 10-6.075**

**Maximum Achievable Control Technology Regulations**

**40 CFR Part 63, Subpart TTT**

**National Emission Standards for Hazardous Air Pollutants from Primary Lead Smelting – Applicability §63.1541(b)**

**40 CFR Part 63, Subpart A**

**General Provisions – Startup, Shutdown and Malfunction Plan - §63.6(e)**

**10 CSR 10-6.120**

**Restriction of Emissions of Lead From Specific Lead Smelter – Refinery Installations**

**10 CSR 10-6.065**

**Operating Permits Required – Compliance Plan Required**

- 1) Compliance Plan
  - a) The permittee is not in compliance with the requirements of §63.6(e) and 40 CFR part 63, subpart TTT to have a Startup, Shutdown and Malfunction Plan (SSMP) approved by no later than May 4, 2001.
  - b) The permittee shall continue to develop a SSMP with guidance from the Compliance/ Enforcement Section.
    - i) The permittee shall submit a SSMP status report on the first day of each month until plan approval.
    - ii) The SSMP is to be completed and approved by September, 30, 2006
- 2) Table 1 of 40 CFR part 63, subpart TTT specifies the provisions of subpart A that apply and those that do not apply to the permittees of primary lead smelters subject to 40 CFR part 63, subpart TTT. The provisions of § 63.6(a), (c), (e), (f), (g), (i), and (j) apply to subpart TTT. (§ 63.1541(b))
- 3) Operation and maintenance requirements. (§ 63.6(e))
  - a) At all times, including periods of startup, shutdown, and malfunction, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the permittee reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the permittee to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution practices, nor does it require the permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the SSMP required in § 63.6(e)(3), review of operation and maintenance records, and inspection of the source. (§63.6(e)(1)(i))
  - b) Malfunctions must be corrected as soon as practicable after their occurrence. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, the permittee must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices. (§63.6(e)(1)(ii))
  - c) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards. (§63.6(e)(1)(iii))
- 4) The permittee of an affected source must develop and implement a written SSMP that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for malfunctioning process, and air pollution control, and monitoring equipment used to comply with the relevant standard. This plan shall be developed by the permittee by the source's compliance date for 40 CFR part 63, subpart TTT. The purpose of the SSMP is to - (§63.6(e)(3)(i))
  - a) Ensure that, at all times, the permittee operates and maintains each affected source, including associated air pollution control equipment, in a manner which satisfies the general duty to minimize emissions established by § 63.6(e)(1)(i). (§ 63.6(e)(3)(i)(A))
  - b) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and (§ 63.6(e)(3)(i)(B))
  - c) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation). (§ 63.6(e)(3)(i)(C))

- 5) When actions taken by the permittee during a startup or shutdown ( and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the SSMP, the permittee must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a “checklist,” or other effective form of record keeping, that confirms conformance with the SSMP for that event. In addition the permittee shall keep records of these events as specified in §63.10(b), including records of the occurrence and duration of each startup, shutdown, or malfunction operation and each malfunction of the air pollution control equipment. Furthermore, the permittee shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source’s SSMP in the semiannual (or more frequent) startup, shutdown, and malfunction report required in § 63.10(d)(5). (§ 63.6(e)(3)(iii))
- 6) If an action taken by the permittee during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the affected source’s SSMP, and the source exceeds any applicable emission limitation in the relevant emission standard, then the permittee must record the actions taken for that event and must report such actions within two working days after commencing actions inconsistent with the plan, followed by a letter within seven working days after the end of the event, in accordance with § 63.10(d)(5) (unless the permittee makes alternative reporting arrangements in advance with the Director). (§ 63.6(e)(3)(iv))
- 7) The permittee must maintain at the affected source a current copy of the SSMP and must make the plan available upon request for inspection and copying by the Director. In addition, if the SSMP is subsequently revised as provided in § 63.6(e)(3)(viii), the permittee must maintain at the affected source each previous (i.e. superseded) version of the SSMP, and must make each such previous version available for inspection and copying by the Director for a period of five years after revision of the plan. If at any time after adoption of a SSMP the affected source ceases operation or is otherwise no longer subject to the provisions of this part, the permittee must retain a copy of the most recent plan for five years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by the Director. The Director may at any time request in writing that the permittee submit a copy of any SSMP (or a portion thereof) which is maintained at the affected source or in the possession of the permittee. Upon receipt of such a request, the permittee must promptly submit a copy of the requested plan (or portion thereof) to the Director. The permittee may elect to submit the required copy of any SSMP to the Director in an electronic format. If the permittee claims that any portion of such a SSMP is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR 2.301, the material which is claimed as confidential must be clearly designated in the submission. (§ 63.6(e)(3)(v))
- 8) To satisfy the requirements to develop a SSMP, the permittee may use the affected source’s standard operating procedure (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection or submitted when requested by the Director. (§ 63.6(e)(3)(vi))
- 9) Based on the results of a determination made under § 63.6(e)(1)(i), the Director may require that the permittee of an affected source make changes to the SSMP for that source. The Director must require appropriate revisions to a SSMP, if it is found that the plan: (§ 63.6(e)(3)(vii))
  - a) Does not address a startup, shutdown, or malfunction event that has occurred; (§ 63.6(e)(3)(vii)(A))
  - b) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by § 63.6(e)(1)(i). (§ 63.6(e)(3)(vii)(B))

- c) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control equipment as quickly as practicable; or (§ 63.6(e)(3)(vii)(C))
- d) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in § 63.2. (§ 63.6(e)(3)(vii)(D))
- 10) The permittee may periodically revise the SSMP for the affected source as necessary to satisfy the requirements of 40 CFR part 63 or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, the permittee may make such revisions to the SSMP without prior approval by the Administrator or the permitting authority. However, each such revision to a SSMP must be reported in the semi-annual report required by § 63.10(d)(5). If the SSMP fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the SSMP at the time the permittee developed the plan, the permittee shall revise the SSMP within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the permittee makes any revision to the SSMP which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the permittee has provided a written notice describing the revision to the permitting authority. (§ 63.6(e)(3)(viii))
- 11) The title V permit for an affected source must require that the permittee develop a SSMP which conforms to the provisions of this part. However, any revisions made to the SSMP in accordance with the procedures established by this part shall not be deemed to constitute permit revisions under 40 CFR part 70 or part 71. Moreover, none of the procedures specified by the SSMP for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act. (§ 63.6(e)(3)(ix))

**Permit Condition PW005  
CONSENT JUDGEMENT**

**State Implementation Plan -December 7, 2000**

**ADMINISTRATIVE ORDER ON CONSENT**

**Resource Conservation and Recovery Act (RCRA)**

**Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**

**40 CFR 50.12**

**National Ambient Air Quality Standard for Lead**

**Order:**

It is therefore ordered, adjudged, and decreed that Doe Run undertake and complete, at its Herculaneum, Missouri, facility, the lead emission reduction program and schedule as specified in Section A. These control measures and the associated schedules are the reasonably available control measures to be implemented to attain the national ambient air quality standard for lead (as required by Section 172(c) of the Clean Air Act Amendments of 1990). (§2.)

**Projects Required as SIP Control Measures:**

- I) Refinery Department Modifications (§2.A.1.)
- II) Dross Plant and Refinery Dross System (§2.A.2.)
- III) Blast Furnace and Dross Plant Projects (§2.A.3.)
- IV) Comply with the requirements of 10 CSR 10-6.075(4)(TTT). (§2.A.4.)
- V) Existing Road Dust Controls (§2.A.5.)

**Enforcement Measures:**

- 1) Stack Testing: (§2.B.1.)
  - a) Compliance with the emission rates specified in 10 CSR 6.120 shall be demonstrated to MDNR by Doe Run through tests conducted in accordance with approved EPA methods.
  - b) Lead emission rates shall be determined in accordance with 10 CSR 10-6.075(4)(TTT), on a pound per 24-hour basis.
- 2) Notification of Completion Dates: (§2.B.2.)
  - a) Doe Run shall provide MDNR with written notification of completion of each project specified in §2.A.
- 3) Limitation of Hours of Operation: (§2.B.3.) – Rescinded and Replaced by April 2007 Consent Judgement
  - a) On or before July 31, 2001, and at all times thereafter, the rail car unloader shall be operated only between the hours of 6 AM and 6 PM.
  - b) On or before July 31, 2001, and at all times thereafter, the rail car unloader shall unload baghouse fume only between the hours of 2 PM and 4 PM.
- 4) Process Weight Limits: (§2.B.4.) – Rescinded and Replaced by April 2007 Consent Judgement
  - a) Sinter plant production shall be limited to 283,920 tons of finished sinter per each calendar quarter.
  - b) Blast furnace production shall be limited to 114,005 tons of lead contained in lead-bearing material charged per each calendar quarter.
  - c) Refinery production shall be limited to 80,808 tons of metal cast per each calendar quarter.
- 5) Doe Run shall, to the extent consistent with this Judgement and 10 CSR 10-6.120, adhere to the “Work Practice Manual” (§2.B.5.)
- 6) Record Keeping: (§2.B.6.)

Doe Run shall maintain the following records for MDNR review for a minimum of 5 years following the recording of information.

  - a) Doe Run shall maintain a file that states for each quarter, i) Sinter machine throughput, ii.) Blast furnace throughput, and iii.) Refined lead produced. Attachment C can be used for this purpose.
  - b) Doe Run shall maintain a file of the date, time, findings, and corrective actions taken for all baghouse inspections scheduled in the Work Practice Manual.
  - c) Doe Run shall maintain a file that records any upset operating conditions or material spills that affect lead emissions.

Pending resolution of any enforcement action initiated by MDNR, Doe Run shall maintain all pertinent records indefinitely.

- 7) At a minimum, Doe Run shall continue the ambient air monitoring for lead at Station 3-Dunklin High School, Station 5-Bluff, and Station 7-Broad Street in accordance with the every sixth day national monitoring schedule. Any deviations from every sixth day monitoring schedule must be approved by MDNR and EPA. Doe Run shall continue to collect meteorological data from the local meteorological station in accordance with the meteorological monitoring protocol until EPA has formally redesignated the Herculaneum Nonattainment Area as an attainment area for lead. (§2.B.7.)

The lead monitoring by Doe Run will be increased to eleven stations. The Main Street and Broad Street monitors sample daily and the other stations sample every third day.

- 8) Doe Run shall install a fence to preclude public access. A map showing the fencing is shown as Exhibit A in the Lead SIP. (§2.B.8.)

## **ADMINISTRATIVE ORDER ON CONSENT**

- 1) The Administrative Order on Consent was entered into voluntarily by the EPA, MDNR and The Doe Run Resources Corporation on May 29, 2001. The Order requires Doe Run to conduct certain response actions as detailed in the Statement of Work to abate an imminent and substantial endangerment to the public health, welfare, or the environment that may be presented by the actual or threatened release of hazardous substances at or from the facility.
- 2) The Order listed seventeen plans. The AOC Statement of Work III. covers the Control Strategy, Control Strategy Implementation Schedule, and Reasonably Available Control Technology Analysis detailed below.

### **AOC Contingency Control Measures**

- 1) The control strategy elements of SIP development shall be completed consistent with EPA/MDNR direction and in accordance with the following schedule: (AOC Statement of Work III.1.)
  - a) By January 1, 2001, Doe Run shall submit a Reasonably Available Control Technology analysis and control strategy, including an implementation schedule. (AOC Statement of Work III.1.A.)
  - b) By January 1, 2001, Doe Run shall submit a schedule for implementation of the following contingency control measures. (AOC Statement of Work III.1.B.)
    - ii) Modify Cooler Baghouse dilution air intake.
    - iii) Modify roof monitor in the Sinter Plant Mixing Room with passive filters.
    - iv) Enclose railcar fume loading station at Number 5 Baghouse.
    - v) Enclose North end of the railcar unloader
    - vi) Enclose North end of Number 1 trestle.
    - vii) Modify sinter machine inlet to Number 3 Baghouse.
- 2) Beginning October 1, 2002, Doe Run shall initiate implementation of the additional contingency control measures described in paragraph B above. Doe Run shall implement one of the additional contingency control measures each calendar quarter until all are implemented. (AOC Statement of Work III.1.F.)
- 3) In the event there is a violation of the lead standard ( $1.5 \text{ ug/M}^3$  quarterly arithmetic mean) subsequent to any time after June 30, 2002, EPA and/or MDNR will notify Doe Run of such a violation of the standard. (AOC Statement of Work III.1.G.)
- 4) Upon receipt of notice that there is a violation of the quarterly lead standard, Doe Run shall implement the following contingency measures: (AOC Statement of Work III.1.H.)
  - a) In the event there is a violation of the quarterly lead standard prior to implementation of all additional control measures under the schedule specified in paragraph C above, within 60 days, Doe Run shall initiate implementation of all remaining control measures on the additional control measures list described in paragraph B above. (AOC Statement of Work III.1.H.1.)
    - i) In the event that there is a second violation of the quarterly lead standard following implementation of the additional control measures listed in paragraph B, above, Doe Run shall comply with one of the following: (AOC Statement of Work III.1.H.1.a.)
      - (1) The aggregate actual quarterly emissions from all fugitive and stack lead emission sources at the facility, except from the main stack, shall not exceed 80% of the aggregated estimated quarterly emissions from these same sources which were used to develop the control strategy referred to in paragraph A. above. The main stack is the existing 550-foot stack through which process gas streams are emitted to the atmosphere. The actual emissions shall be determined using the most current facility throughputs, and test data. The most accurate emission factors may be used where test data are not available; (AOC Statement of Work III.1.H.1.a.1.)

- (2) Production of finished lead shall be limited to 50,000 short tons per quarter; or (AOC Statement of Work III.1.H.1.a.2.)
- (3) Finished lead production, in tons per quarter, shall be limited to the following:

$$P = 50,000 + (500 \times (1 - A/E) \times 100)$$

Where P is finished lead production in short tons per quarter;

Where A is the aggregate actual quarterly emissions from all fugitive and stack lead emission sources at the facility except from the main stack, in tons;

Where E is the aggregate estimated quarterly emissions from all fugitive and stack lead emission sources at the facility, except from the main stack, in tons; and,

Where A/E cannot be less than 0.8 or more than 1.0.

(AOC Statement of Work III.1.H.1.a.3.)

- b) The requirement to comply with paragraph E.1.a. shall commence on the first day of the calendar quarter following receipt by EPA or MDNR of the monitoring data indicating the second violation of the quarterly lead standard. (AOC Statement of Work III.1.H.1.b.)
- 5) In the event that there is a violation of the quarterly lead standard which occurs after implementation of all additional controls under the schedule specified in paragraph C above, Doe Run shall comply with the requirements of paragraph E.1.a. above. The requirement to comply with paragraph E.1.a. shall commence on the first of the calendar quarter following receipt by Doe Run of the notice from EPA and/or MDNR that there is a violation of the quarterly lead standard referred to in paragraph D. (AOC Statement of Work III.2.)
- 6) Doe Run shall continue to operate the facility in compliance with paragraph E.1.a. above; until such time that EPA or MDNR establishes alternative requirements through a modification to this Order, a modification to the State Implementation Plan, or an approved Maintenance Plan as part of a redesignation of the Herculaneum area to an attainment area for lead. (AOC Statement of Work III.3.)
- 7) (Not in AOC)
- 8) Within 60 days of completion of each calendar quarter in which Doe Run is required to comply with paragraph E.1.a. above, Doe Run shall submit a report indicating whether or not the requirements of E.1.a. were met for the previous quarter. This report shall include finished lead production, the most current test data and emission factors applicable to sources at the facility, sample calculations which clearly demonstrate how emission reductions were calculated, and applicable operating data, such as material throughput. The requirement to submit this report shall continue as long as Doe Run is required to operate the facility in accordance with paragraph E.1.a. (AOC Statement of Work III.5.)

**NOTE:** Doe Run has failed to comply with the quarterly lead standard for the first three quarters of 2005. The installation notified the APCP on September 19, 2005 that they would immediately begin implementation of contingency 2., Production of finished lead shall be limited to 50,000 short tons per quarter. Doe Run shall also comply with AOC Contingency Control Measures 3 and 5.

Nothing in this Statement of Work shall limit or preclude EPA or MDNR from taking action prescribed by the Clean Air Act regarding the National Ambient Air Quality Standards.

**Stipulated Penalties:**

- 1) For failure to develop and submit in a timely manner an original version of the following plans required pursuant to this Order, or for failure to submit a timely and adequate revised version of the following plans, stipulated penalties shall accrue in the amount of two hundred fifty dollars (\$250) per day per violation.  
(AOC 118.)
2. For the following activities, stipulated penalties shall accrue in the amount of one thousand two hundred fifty dollars (\$1,250) per day per violation. (AOC 119.)
  - a) Failure to fully conduct or implement an approved plan which was developed and approved pursuant to this Order. (AOC 119.1.)
  - b) Failure to install and operate the air emission controls specified in the Control Strategy (AOC 119.2.)
  - c) Failure to implement air emission contingency measures. (AOC 119.3.)
- 3) The stipulated penalties provisions do not preclude EPA or the MDNR from pursuing any other remedies or sanctions which are available to EPA or the MDNR because of Doe Run's failure to comply with this Order including, but not limited to, conduct of all or part of the actions by EPA or MDNR. EPA will not attempt to recover more than \$27,500 per day for stipulated penalties and statutory monetary penalties for the same violation. Payment of stipulated penalties does not alter Doe Run's obligation to complete performance under this Order. (AOC 120.)

**Reporting:**

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

**Permit Condition PW006  
10 CSR 10-6.260**

**Restriction of Emission of Sulfur Compounds**

**Applicability:**

- 1) This rule applies to any installation that is an emission source of sulfur compounds, **except** -
  - a) Emission sources subject to an applicable sulfur compound emission limit under 10 CSR 10-6.070; or
  - b) (10 CSR 10-6.260(1)(A)1.)
  - c) Combustion equipment that uses exclusively pipeline grade natural gas, or liquefied petroleum gas, or any combination of these fuels. (10 CSR 10-6.260(1)(A)2.)
- 2) Permit Condition PW006 is applicable to the sum of sulfur compound emissions from the main stack (EP059), the acid storage tanks (EP020A), the acid plant fugitive sulfur compounds (EP020B), and from the sulfuric acid loading of barges, trucks and railcars (EP199).

**Emission Limitation:**

- 1) The permittee shall limit sulfur dioxide emissions from the existing Herculaneum smelter applicable sources to 20,000 lbs SO<sub>2</sub> per hour. (10 CSR 10-6.260(3)(D)1.)
- 2) The permittee shall not cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Standards.

<u>Pollutant</u>	<u>Concentration by Volume</u>	<u>Remarks</u>
a) Sulfur Dioxide (SO <sub>2</sub> )	0.03 parts per million (ppm)	Annual arithmetic mean
	0.14 ppm (365 micrograms per cubic meter (µg/m <sup>3</sup> ))	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m <sup>3</sup> )	3-hour average not to be exceeded more than once per year
b) Hydrogen Sulfide (H <sub>2</sub> S)	0.05 ppm (70 µg/m <sup>3</sup> )	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m <sup>3</sup> )	½-hour average not to be exceeded over 2 times in any 5 consecutive days
c) Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )	10 µg/m <sup>3</sup>	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 µg/m <sup>3</sup>	1-hour average not to be exceeded more than once in any 2 consecutive days

**Operational Limits:**

- 1) Electrostatic precipitator (ESP) shall operate with three of the five fields on line.
- 2) The ESP normal operating temperature range shall be maintained between 400 to 600 °F.
- 3) The acid plant venturi scrubber liquid temperature shall be maintained between 150 to 200 °F.
- 4) The first pass in the acid plant converter should be 700 °F or higher within an hour. Preheat is used until 760 °F is met.
- 5) Normal pressures in the acid plant system;

Control Device #	Inlet (“ H <sub>2</sub> O)	Outlet (“ H <sub>2</sub> O)
Venturi Scrubber CD-16	-11.0	-17.0
Mist Precipitators CD-18	-24.6	-26.6
Demister Pads CD-19	-34	-38
Demister Pads CD-21	12.2	0.5

**Operational Limitation/Equipment Specifications:**

- 1) The permittee will operate the control devices, (ESP) and the acid plant; to aid in meeting the particulate emission limit for this source and to insure proper operation of the acid plant. The control devices are normally required to be in service and operational when sinter plant is operating. Exception: Except as defined in 10 CSR 10-6.050, Start-Up, Shutdown, and Malfunction Conditions.” Operation of the control device must be maintained using standard manufacturer recommendations and Good Engineering Practices (GEP).
- 2) An operation and maintenance plan shall be developed in accordance with manufacturer specifications for the ESP.

**Monitoring:**

- 1) The ESP inlet temperature readings are monitored in the Sinter Plant control room and there are alarm lights in the ESP control room.

- 2) The acid plant control device pressure readings and the converter temperature shall be monitored each operating shift.
- 3) For particulate matter periodic monitoring compliance, the permittee shall monitor three specific parameters that can be used to indicate the ESP's performance. The permittee shall monitor the primary and secondary voltage, primary and secondary current and number of fields on line once each shift when the unit is on line.
- 4) The permittee makes a commitment to take timely corrective action during periods of excursions where the indicators of the electrostatic precipitator performance are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return the operation within the indicator range. An excursion is determined by the average discreet data point over a period of time, or the presence of a monitored abnormal condition. An excursion does not indicate a violation of an applicable requirement. ESP parameters alone, are not prima facie evidence of a violation but may be used with other information to establish a violation of a particulate matter limitation.
- 5) Inspection of the rapper operation, T-R set operation, inspection of the ash removal system are required to be included in the operation and maintenance plan. Corrective action measures will be implemented on the occurrence of an abnormal condition. Abnormal conditions will include the following: a T-R set failure, rapper system failure, ash transport system failure. Random T-R system failure and rapper failure (up to two T-R sets and 20% of the rappers) will not significantly affect precipitator performance.
- 6) Each major unit overhaul shall be defined in the maintenance plan to include the checking and correct plate electrode alignment, the inspection of the condition collection surface fouling, the mechanical condition of the T-R set and the inspection of the internal structural components. Corrective action procedures will be devised and implemented on the occurrence of an abnormal condition. The appropriate measures for remediation will be implemented in a timely manner.
- 7) Compliance with 10 CSR 10-6.260(3)(D)1. shall be determined by source testing as specified in subsection (5)(B) of this rule except the source testing shall consist of averaging three (3) separate one (1)-hour tests using the applicable test method. (10 CSR 10-6.260(3)(D)2.)

**Test Method:**

- 1) Source testing to determine compliance shall be done as specified in 10 CSR 10-6.0309(6).  
(10 CSR 10-6.260(5)(B))

**Record Keeping:**

- 1) The ESP temperature and operating parameters shall be recorded on each operating shift. Attachment D, or a similar form can be used for this purpose.
- 2) The acid plant control device pressure readings and the converter temperature shall be recorded each operating shift on Attachment E or a similar form can be used for this purpose.
- 3) The permittee shall maintain a written or electronic copy of all inspections and any action resulting from the inspection.
- 4) All instrument calibrations shall be recorded.
- 5) Maintain a spare parts inventory by a computerized inventory or other Administrator approved management system.
- 6) The permittee shall maintain records of any monitoring or control equipment malfunctions.
- 7) All records shall be maintained for five years. These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

**Reporting:**

- 1) The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined that the emission unit(s) exceeded the emission limitation(s) and/or operating parameter range listed above.
- 2) Reports of any deviations from monitoring other than the operating parameter range, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.
- 3) The permittee shall furnish the director such data as s/he may reasonably require to determine whether compliance is being met. (10 CSR 10-6.260(3)(D)4.)

**Permit Condition PW007**  
**10 CSR 10-6.075**

**Maximum Achievable Control Technology Regulations**

**40 CFR part 63, subpart TTT**

**National Emission Standards for Hazardous Air Pollutants for Primary Lead Smelting**

**40 CFR part 63, subpart A**

**General Provisions**

**Implementation and Enforcement Authority:**

- 1) The EPA has delegated implementation and enforcement authority of 40 CFR part 63, subpart TTT to the Missouri Department of Natural Resources except for the following authorities. (§§ 63.1550(b) and (c))
  - a) Approval of alternatives to the requirements in §§ 63.1541, 63.1543(a) through (c), (f) through (g), and 63.1544 through 63.1545. (§ 63.1550(c)(1))
  - b) Approval of major alternatives to test methods under §§ 63.7(e)(2)(ii) and (f), as defined in § 63.90, and as required in this subpart. (§ 63.1550(c)(2))
  - c) Approval of major alternatives to monitoring under § 63.8(f), as defined in § 63.90, and as required in this subpart. (§ 63.1550(c)(3))
  - d) Approval of major alternatives to record keeping and reporting under § 63.10(f), as defined in § 63.90, and as required in this subpart. (§ 63.1550(c)(4))

**Permit Condition PW008**  
**CONSENT JUDGEMENT**

**Herculaneum Lead Nonattainment Area State Implementation Plan – 2007 Revision**

**Order:**

It is therefore ordered, adjudged, and decreed that Doe Run undertake and complete, at its Herculaneum, Missouri facility, the following lead emission reduction program, on the schedule set forth below. These control measures and the associated schedules are the reasonably available control measures to be implemented to attain the national ambient air quality standard for lead (as required by Section 172(c) of the Clean Air Act). (§2.)

**Projects Required as SIP Control Measures:**

The following emission control measures shall be installed at the Herculaneum facility. Doe Run may install and operate additional emission control projects and may improve the emission controls listed below as is necessary to further reduce ambient lead concentrations in Herculaneum, Missouri.

- 1) Concentrate Delivery & South End Material Storage. Beginning on or before April 7, 2007, Doe Run shall utilize a new concentrate delivery system. All delivery concentrate shall contain an average of six (6) percent moisture by weight on a daily average as demonstrated by physical analysis, as set forth in Doe Run's Work Practices Manual. Records of these analyses shall be provided as required in paragraph B(8) of the Consent Judgement (Enforcement Measures, paragraph 8 below). The concentrate delivery procedure shall be outlined in the Work Practices Manual. Concentrate delivery trucks shall enter the plant, back to the unloading location, and dump their load over a barrier so as to minimize contact of concentrate with the truck tires. All trucks shall subsequently proceed to a water wash system for removal of visible materials from the tires and chassis of each truck. All concentrate delivery trucks shall be properly tarped to prevent concentrate from blowing out of the bed of the trucks during transport. Trucks must remain tarped except during the unloading and washing process, and all tarps must be maintained in working order with no tears or openings. On or before April 7, 2008, Doe Run shall install and permanently operate a concentrate handling system in the plant comprised of a partially enclosed hopper and conveyor that can convey truck delivered concentrate directly from a hopper into a railcar. On or before April 7, 2008, Doe Run shall install and utilize a drop sleeve that reaches down to the top of the railcar on the concentrate conveyor drop points to minimize the effective drop height of the conveyed concentrate. On or before April 7, 2007, Doe Run shall install, utilize, and properly maintain a walled concentrate storage area to minimize fugitive lead emissions from handling and wind erosion and to prevent migration of the materials onto plant roads or other areas. The walled storage shall be constructed of locking concrete blocks assembled to preclude passage of materials with a minimum wall height of at least three blocks, back wall length of 46 blocks on three sides, and side wall length of 7 blocks. To minimize concentrate handling and fugitive lead emissions, beginning on or before April 7, 2008, Doe Run shall convey a minimum of eleven truckloads of concentrate each day concentrate is received directly to railcars. Doe Run shall limit the movement of concentrate from the walled concentrate storage area to railcars to the amount listed in paragraph B(6)(d) of the Consent Judgement (Enforcement Measures, paragraph 6.d. below). Records of the amount of concentrate loaded directly to railcars and from the walled concentrate storage area shall be maintained as required in the Work Practices Manual. The concentrate delivery system may be altered if Doe Run identifies an improved system upon written approval of the Director of the Department of Natural Resources Air Pollution Control Program. (§2.A.1)
- 2) On or before April 7, 2008, Doe Run shall enclose the sinter loading area on the northeast corner of the sinter area. The enclosure shall be engineered as a permanent total enclosure, to minimize the escape of lead-bearing particles from the enclosure. Doe Run's Work Practices Manual shall outline the procedure for keeping building doors closed, except to allow for building access. (§2.A.2)
- 3) Railcar Tipping Building. On or before April 7, 2008, Doe Run shall install a door on the south end of the railcar tipping building. The door shall be engineered to minimize the escape of lead-bearing particles from the tipping building. The design of the door is subject to MDNR approval. Doe Run's Work Practices Manual shall outline the procedure for unloading the railcar, including steps to open the door, move the railcar into the building, close the door, tip the car, convey material out of the hopper, and to reopen the door to move the railcar out of the building, and to keep the doors closed when the unloader is not in use. (§2.A.3)
- 4) Sinter Machine Wheel Tunnel Ventilation. Beginning on or before April 7, 2007 Doe Run shall enclose and ventilate the hot gas section of the Wheel Tunnel of the Sinter Machine. The Wheel Tunnel ventilation shall be designed with a rate of fifteen thousand (15,000) actual cubic feet per minute. These gases shall be routed to Number 3 Baghouse which shall meet a total suspended particulate specification

of 0.022 grains per dry standard cubic foot of air. Beginning on or before April 7, 2008, the rate of Wheel Tunnel ventilation shall be continuously measured. Wheel Tunnel ventilation shall be continuously operated and maintained at fifteen thousand actual cubic feet per minute, including during times when the Sinter Machine is not operational, unless it interferes with maintenance work being performed on the equipment. Doe Run's Work Practices Manual shall outline the conditions and procedures by which ventilation rates can be altered for the previously mentioned situations. As an alternative to continuously measuring flowrates, Doe Run may develop a calculation for the relationship of fan amperage and duct damper settings to ventilation rates and continuously record fan amperage. Doe Run shall submit the calculation to MDNR for its review and approval. Doe Run may redesign the Sinter Machine process gas ventilation measurement system or baghouse system to allow different bag, fan, or cleaning mechanism designs provided MDNR approves the redesign based on Doe Run's demonstration that the performance is equivalent or better. A file recording fan amperages, fan outages, and ventilation rate monitoring shall be maintained as required by Section B(8)(f) of the Consent Judgement (Enforcement Measures, paragraph 8.f. below). (§2.A.4)

- 5) Number 3 Baghouse Bag Replacement and New Cleaning Systems. On or before April 7, 2007, Doe Run shall upgrade the bags and bag cleaning system in Number 3 Baghouse. The new bags will be cleaned using reverse flow technology. This new system shall be designed with a ventilation rate of two-hundred and twenty-five thousand (225,000) actual cubic feet per minute. Number 3 Baghouse shall be designed to meet a total suspended particulate specification of 0.022 grains per dry standard cubic foot of air. Beginning on or before April 7, 2008, the rate of ventilation shall be continuously measured at a point immediately after the gases exit the baghouse, and the ventilation system shall be continuously operated and maintained at two-hundred and twenty-five thousand (225,000) actual cubic feet per minute. Alternatively, Doe Run shall develop a calculation for the relationship of fan amperage and duct damper settings to ventilation rates and continuously record fan amperage. Doe Run shall submit the calculation to MDNR for its review and approval. Doe Run may redesign the baghouse system to allow different bag, fan, or cleaning mechanism designs provided MDNR approves the redesign based on Doe Run's demonstration that the performance is equivalent or better. A file recording fan amperages, fan outages, and ventilation rate monitoring shall be maintained as required by Section B(8)(f) of the Consent Judgement (Enforcement Measures, paragraph 8.f. below). (§2.A.5)
- 6) Carrier Cooler Baghouse Enclosure. On or before April 7, 2008, Doe Run shall enclose the dust handling sections of the Carrier Cooler Baghouse. (§2.A.6)
- 7) Fume unloading (pugger). On or before April 7, 2008, Doe Run shall install and permanently operate a fume handling system. Fume from Baghouse Number 5 shall be routed to the Mix Room and fed to the Sinter Machine when the Sinter Machine is in operation. During times that the Sinter Machine is not in operation, fume from the Number 5 Baghouse shall be wetted and augured into a railcar for storage at the south end of the plant. On or before April 7, 2008, Doe Run shall install, utilize, and properly maintain a drop sleeve that reaches down to the top of the railcar on the fume to the railcar drop point to minimize the effective drop height of the conveyed concentrate. The augured fume shall contain a daily average of eight (8) percent moisture by weight as demonstrated by physical analysis as set forth in the Work Practices Manual. The fume storage pile at the south end of the plant shall be wet as needed as set forth in the Work Practices Manual. Records of these analyses shall be provided as required in paragraph B(8)(e) of the Consent Judgement (Enforcement Measures, paragraph 8.e. below). In addition, the fume storage pile shall be treated with a proprietary compound according to manufacturer's specifications to minimize fugitive emissions from wind erosion. (§2.A.7)

- 8) Number 5 Baghouse Fans and Blast Furnace Blowers Interlock. On or before April 7, 2007, Doe Run shall install and permanently operate an interlock control system that restricts air feed to tuyeres at the bottom of the furnace when the Number 5 Baghouse fans are not operational, such as during an electrical malfunction or mechanical failure. (§2.A.8)
- 9) Number 5 Baghouse Fans Malfunction Alarms at Blast Furnace. On or before April 7, 2007, Doe Run shall install and permanently operate a process alarm system that notifies blast furnace operators when there is a malfunction at the Number 5 Baghouse Fans. When an alarm is triggered by a Number 5 Baghouse malfunction, operators at the blast furnace shall take immediate action as set forth in the Work Practices Manual to control the operation of the blast furnace to minimize emissions. (§2.A.9)
- 10) Tuyere Controller Upgrade. On or before April 7, 2007, Doe Run shall install and permanently operate automated flow controllers on the tuyeres that inject air into the bottom of the furnace. Sensors shall be installed and permanently operated that continuously monitor flow at each tuyere. An algorithm shall be developed that continuously compares the flow at different tuyeres, and automatically restricts flow to individual tuyeres if the flow rates from those tuyeres indicate that there is a possibility that a void has formed in the furnace that may lead to a furnace “blow hole.” The tuyere control algorithm and system shall be inspected, maintained, and reported on as prescribed in the Work Practices Manual. (§2.A.10)
- 11) Blast Furnace Relocation. On or before April 7, 2008, Doe Run shall permanently relocate the Number 1 blast furnace to the former location of blast furnace Number 3. The relocation shall reduce ductwork length and potentially increase ventilation flowrates. Beginning on or before April 7, 2008, the rate of ventilation shall be continuously measured at a point immediately after the gases exit Number 5 Baghouse, and the ventilation system shall be operated at all times except during baghouse maintenance, when the furnace is not operating, or during other periods non-representative of normal operations. Number 5 Baghouse ventilation shall be continuously operated and maintained at 300,000 actual cubic feet per minute, including during times when the Blast Furnace is not operational, unless it interferes with maintenance work being performed on the equipment. As an alternative to continuous measurement of the ventilation rate, Doe Run may develop a calculation for the relationship of fan amperage and duct damper settings to ventilation rates and continuously record fan amperage. Doe Run shall submit the calculation to MDNR for its review and approval. The relocation shall also reduce the length of the charge belt that conveys sinter as feed to the furnace shuttle feeder by seventy (70) feet. Once the furnace has been relocated, Doe Run shall not construct or rebuild another furnace in the old location. (§2.A.11)
- 12) Blast Furnace Doghouse Ventilation Improvement and Redesign of Hoods Servicing the Front of the Furnace. On or before April 7, 2008, Doe Run shall install ductwork that provides continuous ventilation to the Blast Furnace Doghouse area for the purpose of removing dust from the interior air near the top of the Blast Furnace Building. Number 6 Baghouse ventilation shall be continuously operated and maintained at 50,000 actual cubic feet per minute, including during times when the Blast Furnace is not operational, unless it interferes with maintenance work being performed on the equipment. A file recording fan amperages, fan outages, and ventilation rate monitoring shall be maintained as required by Section B(8)(f) of the Consent Judgement (Enforcement Measures, paragraph 8.f. below). On or before April 7, 2008, Doe Run shall install an improved ventilation hood system on the front of the Blast Furnace. The hoods shall be designed to improve the capture of fugitive emissions into the Blast Furnace Building and shall include the addition of a ventilation duct and hood over the slag launder to directly ventilate the flow of slag into the granulation tank. (§2.A.12)

- 13) Kettle Heat Stacks. On or before April 7, 2008, Doe Run shall install and permanently operate cameras that continuously monitor the opacity of the exits of the Kettle Heat Stacks as set forth in the Work Practices Manual. The cameras shall be used to quickly identify kettle failures so that operators can take immediate action to mitigate lead emissions from these stacks. When operators suspect a kettle failure, the burners will be shut off immediately. Before returning the suspect kettle to service, the kettle and the kettle setting shall be inspected and completely cleaned of any product. After cleaning the product from the kettle setting, the department foreman shall inspect the setting to assure that all of the lead-bearing materials have been removed. Reporting requirements are outlined in B(8)(h) of the Consent Judgement (Enforcement Measures, paragraph 8.h. below). (§2.A.13)
- 14) Number 8 and Number 7&9 Baghouse Improvements. On or before April 7, 2008, Doe Run shall install pleated filters in the Number 7&9 Baghouse to increase the air to cloth ratio and to improve the operation of the baghouse. On or before April 7, 2008, Doe Run shall modify the height of the Number 8 and Number 7&9 stacks to a minimum of one-hundred fifty (150) feet. (§2.A.14)
- 15) Specific Control of “North End of Blast Furnace Building to Refinery Dock” Haul Road. Beginning on or before April 7, 2007, Doe Run shall control dust from the plant road from the “North End of the Blast Furnace Building to Refinery Dock” when hauling slag by truck to slag storage by using water to prevent visible fugitive emissions. The water application rate shall be 350 gallons applied over the span of the defined haul road at least once every four (4) hours during any day or portion of day the road is used for hauling slag to storage. A quarter inch or more rainfall during the preceding 24-hours shall substitute for this watering condition. Application of water shall not apply when the ground is frozen. Within 72 hours of completion of a batch hauling of slag to storage Doe Run shall apply an appropriate road surfactant according to manufacturer’s specifications to prevent fugitive emissions resulting from wind erosion or other incidental road traffic. The Work Practices Manual shall outline these procedures and shall contain a map identifying the referenced in-plant haul road. (§2.A.15)
- 16) Street Sweeping. On or before April 7, 2008, Doe Run shall purchase and operate a regenerative air sweeper to service paved truck haul routes external to the plant as shown in the Work Practices Manual. Doe Run shall purchase and operate a wet sweeper to service paved areas in the plant. Weather permitting, the sweepers shall be operated a minimum of 6 hours per day, Monday through Friday, on all accessible paved surfaces in the plant that are not controlled by the In-plant Sprinkler system. The wet sweeper shall be operated to include those surfaces controlled by the In-Plant Sprinkler system when the In-Plant Sprinkler system is not operating for any reason. Reporting requirements and a map showing the sweeper coverage areas shall be provided in the Work Practices Manual. The sweeper technology may be altered, upon written approval of the Director of the Department of Natural Resources Air Pollution Control Program, if equivalent or better emissions control is achieved. The coverage area may be altered, upon written approval of the Director of the Department of Natural Resources Air Pollution Control Program, if Doe Run proposes a new haul route which would result in no additional adverse impact on air quality. The regenerative sweeper shall cover the wet sweeping area when temperatures fall below 39° F (if that is when the wet sweeper ceases operation). (§2.A.16)
- 17) In-plant Sprinklers. On or before April 7, 2008, Doe Run shall install a permanent water sprinkler system to wet paved surfaces in the plant. This system shall be maintained and operated, except when ambient temperatures fall below 39° F, or when the application of water results in the formation of ice that could result in injury to personnel. A map showing the coverage area of the sprinkler system is provided in the

Work Practices Manual, which also contains operating specifications. The coverage may be altered, upon written approval of the Director of the Department of Natural Resources Air Pollution Control Program, if those areas prove to be better controlled for emissions by new sweeper technology or other equivalent or better techniques. (§2.A.17)

- 18) Building Enclosure Improvements. On or before April 7, 2008, Doe Run shall equip all man doors in the Sinter Building, Blast Furnace Building, and Refinery Building with cords, pulleys, and weights so that the doors are pulled closed automatically. Beginning on or before April 7, 2007, Doe Run shall institute lockout procedures for the large equipment doors in the Sinter Building, Blast Furnace Building, and Refinery Building. The lockout procedures shall be outlined in the Work Practices Manual. Alternatively, Doe Run shall equip all large equipment doors with automatic closing mechanisms. All doors shall be closed at all times except to allow building access. (§2.A.18)
- 19) On or before April 7, 2007 (except in the case of the Carrier Cooler Baghouse enclosure, which shall be subject to this provision when construction is completed), and every two weeks thereafter, Doe Run shall conduct a comprehensive inspection of the siding of the Sinter Building, Blast Furnace Building, Carrier Cooler Baghouse enclosure, and Refinery Building. The inspectors shall identify and schedule building repairs necessary to minimize the escape of lead-bearing particles from the building. Records of the inspection and siding repairs shall be provided to MDNR as required in paragraph B(8)(d) of the Consent Judgement (Enforcement Measures, paragraph 8.d. below). (§2.A.19)
- 20) On or before July 1, 2007, Doe Run shall submit a work plan to MDNR for a building ventilation study for the Sinter Building, Blast Furnace Building, and Refinery Building. The work plan is subject to approval by MDNR. The work plan shall identify building openings, ventilation sources that are typically operated at continuous rates, ventilation sources where rates can be varied, and a procedure for measuring inflow into the buildings. The goal of this effort shall be to develop a mathematical relationship between inflow rates and process and hygiene fan amperages, and to establish minimum fan amperages that assure that particles emitted within the building are being appropriately captured by the ventilation systems. Within 90 days of approval of the work plan by MDNR, Doe Run shall complete the ventilation study. Within 60 days of completion of the study, Doe Run shall summarize the findings and report these to MDNR. Upon approval of the study and its findings, the minimum fan amperages identified in the study shall become enforceable conditions of this Consent Judgment. If the parties are unable to agree regarding the findings of the study, the matter shall be submitted for dispute resolution pursuant to paragraph E below. (§2.A.20)

**Enforcement Measures / Required Practices and Procedures:**

- 1) Fence line to Preclude Public Access. A map showing the existing fenceline and a proposed new fenceline is provided in the Work Practices Manual. Doe Run shall maintain the existing fence around its facility so that it is sufficient to preclude general public access, until such time as a new fenceline outside the existing fenceline is fully installed. If Doe Run moves the fence to the proposed fenceline or another location outside the existing fenceline, it must install and maintain the new fence so that it is sufficient to preclude general public access. Doe Run shall notify MDNR of its intent to move the fenceline to the proposed fenceline or another location outside the existing fenceline at least 90 days prior to commencement of construction. Doe Run shall not relocate any existing processes, or construct new lead emission sources, in the area between the existing fence line and the new fenceline. (§2.B.1)

- 2) Technology Study for Fugitive Dust Control. By April 1, 2008, Doe Run shall submit a work plan to MDNR for a study of best practices and best available technology in place in at least three other smelting facilities and other facilities with fugitive emissions control challenges. The work plan is subject to approval by MDNR. The work plan shall provide that the study shall be completed and delivered to MDNR within 180 days of Doe Run being notified by MDNR that the air quality data for the second calendar quarter of 2008, or any quarter thereafter, exceeds 90% of the 1.5 µg Pb/m<sup>3</sup> quarterly average lead standard. The study must list all best practices and best available technologies identified and, for each technology or practice, must identify those technologies and/or practices that Doe Run deems technically feasible and cost-effective for inclusion as contingency measures, quantify associated emissions reductions, and provide a time frame for implementation of each. Within 60 days of its receipt of the study, MDNR will advise Doe Run whether the projects and timelines proposed by Doe Run are acceptable and if MDNR agrees that any of the identified technologies or practices are not technically feasible and cost-effective. Those items that are determined to be technically feasible and cost-effective shall become a part of the Consent Judgment and fully enforceable hereunder as contingency measures in paragraph C(1) of the Consent Judgment (Projects Required as Contingency Control Measures, paragraph 1. below), and shall be implemented on a schedule agreed upon between Doe Run and MDNR. If the parties are unable to agree regarding any items, the matter shall be submitted for dispute resolution pursuant to paragraph E below. (§2.B.2)
- 3) Stack Testing. Lead emissions to the atmosphere shall be limited to the amounts in the table below:

Stack Name	Emission Limitation (lbs per 24-hours)
Main Stack	794
7&9 Baghouse	56.6
8 Baghouse Stack	8.2

Compliance with the emission limits shall be demonstrated to MDNR by Doe Run through tests conducted at Doe Run's expense in accordance with approved EPA test methods. Doe Run shall notify MDNR of the proposed test dates and provide a copy of the test protocol to MDNR at least 30 days before testing. Test reports, including raw data, shall be submitted to MDNR within 60 working days of the completion of the test report. (§2.B.3)

- a) Main Stack. On or before June 30, 2008 Doe Run shall conduct an initial stack test for the main stack. Doe Run shall conduct a second test on or before June 30, 2009. If these tests demonstrate compliance with the limit provided in the table above, Doe Run shall conduct future tests every twenty-four (24) months beginning June 30, 2009 to coincide with the testing requirements of the Primary Lead Smelter Maximum Achievable Control Technology Standard (40 CFR, Part 63, Subpart TTT). If any test does not show compliance, Doe Run shall install and maintain a monitor on the stack to continuously or near-continuously monitor lead emissions as set forth below. If no monitor for continuous or near-continuous monitoring of metals emissions has been approved by EPA, Doe Run shall conduct stack tests every calendar quarter beginning the calendar quarter after the test demonstrating noncompliance. Stack tests shall continue on a quarterly schedule until four consecutive tests have demonstrated compliance, at which time stack tests shall be conducted on an annual basis. (§2.B.3.a)
- b) Baghouse Stacks. Stack tests on the 7 & 9 Baghouse stack and the 8 Baghouse stack shall be conducted every calendar quarter beginning in the second quarter of 2008 and continuing through the first quarter of 2009 (4 testing events). If the average of the four baseline tests is greater than eighty

(80) percent of the respective limits provided in the table above, but less than the limits, the testing frequency may be reduced to two tests annually to occur in the fourth and second quarters of each year. If the average of the four baseline tests is less than eighty (80) percent of the respective limits provided in the table above, the testing frequency may be reduced to one test per stack annually. If any subsequent test on any baghouse stack being tested annually is greater than eighty (80) percent of the respective limits provided in the table above, but less than the limits, the testing frequency for that stack must be increased to two tests annually to occur in the fourth and second quarters of each year. If any test exceeds the applicable limit, Doe Run shall install and maintain a monitor on the stack where the exceedance was monitored to continuously or near-continuously monitor lead emissions as set forth below. If no monitor for continuous or near-continuous monitoring of metals emissions has been approved by EPA, Doe Run shall conduct stack tests every calendar quarter beginning the calendar quarter after the test demonstrating noncompliance. Stack tests shall continue on a quarterly schedule until four consecutive tests have demonstrated compliance, at which time stack tests shall be conducted on an annual basis, if the average of the four previous quarterly tests is less than eighty (80) percent of the respective limits provided in the table above, or semiannual, if the average of the four previous quarterly tests is greater than eighty (80) percent of the respective limits provided in the table above, but less than the limits. (§2.B.3.b)

- c) Continuous Monitoring. The continuous or near-continuous monitors shall be operated and properly maintained such that they are individually out of service for no more than one-hundred twenty (120) hours per each calendar quarter. Doe Run shall maintain all necessary spare parts to assure that an extended monitoring outage does not occur. Doe Run shall provide MDNR with a quarterly report of the monitoring results within 30 days of the end of each quarter, including explanations for monitoring downtime and the corrective actions taken. The report shall also include a summary of plant operations, including sinter plant and blast furnace production, and shall note occurrences of values greater than eighty (80) percent of the respective limit and explain why the monitor recorded said values. (§2.B.3.c)
- 4) Notification of Completion Dates. Doe Run shall provide MDNR with written notification of completion of each project specified in Section A within 30 days of completion. (§2.B.4)
- 5) Limitation of Hours of Operation. Concentrate unloading, concentrate loading to railcar, and concentrate railcar tipping shall be conducted between the hours of 6 AM and 10 PM. Fume Unloading shall be conducted only 13 days per calendar quarter between the hours of noon and 6 PM. (§2.B.5)
- 6) Process Weight Limits.
- a. Sinter plant production shall be limited to 169,190 tons of finished sinter per each calendar quarter. (§2.B.6.a)
  - b. Blast furnace sinter throughput shall be limited to 169,190 tons of sinter charged per each calendar quarter. (§2.B.6.b)
  - c. Refinery production shall be limited to 50,000 tons of lead metal cast per each calendar quarter. After April 7, 2008, as long as the air quality data does not exceed the 1.5 µg Pb/m<sup>3</sup> quarterly average, refinery production may be increased by up to 5,000 additional tons per quarter, up to a maximum of 62,500 tons. Once the quarterly standard has been exceeded in any quarter, refinery production shall be determined as provided in paragraph C(2). (§2.B.6.c)
  - d. Daily process weight limits. Daily production from various operations in the plant shall be limited to the amounts in the table below: (§2.B.6.d)

Activity	Process Throughput Limitation (tons per 24-hour period as per the Work Practices Manual)
Concentrate Delivery	1,800
Concentrate Loaded into Railcars from Ground	1,187
Sinter Produced	2,160
Blast Furnace Charge (of Sinter)	2,160
Rough Lead Produced	1,260
Refined Lead Produced	888

- e. Quarterly process limits. Quarterly production from various operations in the plant shall be limited to the amounts in the table below: (§2.B.6.e)

Activity	Process Throughput Limitation (tons per calendar quarter)
Sinter to South End Storage	45,000
Fume Handling to Storage on South End	1,170

7) Work Practices Manual:

- a. Doe Run shall, to the extent consistent with this Consent Judgment and 10 CSR 10-6.120, adhere to the Work Practices Manual. The Work Practices Manual and the exhibits attached thereto may be modified only with the prior written approval of MDNR. (§2.B.7.a)
- b. Doe Run shall appoint an individual, who shall report directly to the General Manager, and who shall be responsible for overseeing compliance with the Work Practices Manual and all other housekeeping measures instituted to control fugitive emissions. Doe Run shall report to MDNR at least quarterly on all measures taken to improve work practice compliance, any identified failures to achieve compliance, and additional recommendations for improving compliance. Within 60 days of its receipt of the report, MDNR will advise Doe Run whether additional corrective measures are required. All agreed items shall become a part of this Consent Judgment and fully enforceable hereunder. If the parties are unable to agree regarding any items, the matter shall be submitted for dispute resolution pursuant to paragraph (E) below. (§2.B.7.b)

8) Record-Keeping. Doe Run shall maintain the following records for MDNR review until termination of this Consent Judgment pursuant to paragraph H of the Consent Judgement or as otherwise specifically provided in this agreement or the Work Practices Manual. (§2.B.8)

- a. Doe Run shall maintain a file that states for each quarter, (i) Sinter machine throughput, (ii) Blast furnace throughput, and (iii) Refined lead produced. (§2.B.8.a) Attachment C may be used for this purpose.
- b. Doe Run shall maintain a file of the date, time, findings, and corrective actions taken for all baghouse inspections scheduled in the Work Practices Manual. (§2.B.8.b)
- c. Doe Run shall maintain a file that records any upset operating conditions or material spills that affect lead emissions. (§2.B.8.c)
- d. Doe Run shall maintain a file recording building siding inspections as required under paragraph A(19) of the Consent Judgement (Projects Required as SIP Control Measures, paragraph 19 above) and any corresponding corrective actions. (§2.B.8.d)

- e. Doe Run shall maintain a file recording the average daily moisture content of delivered concentrate as required under paragraph A(1) of the Consent Judgement (Projects Required as SIP Control Measures, paragraph 1 above) and of the average moisture content of railcar and storage pile fume as required in paragraph A(7) of the Consent Judgement (Projects Required as SIP Control Measures, paragraph 7 above). (§2.B.8.e)
  - f. Doe Run shall maintain a file recording fan amperages, fan outages, and ventilation rate monitoring data as necessary to demonstrate appropriate ventilation rates from processes and buildings. (§2.B.8.f)
  - g. Doe Run shall integrate the recordkeeping of the prior consent judgment (referred to in paragraph I. of the Consent Judgement). (§2.B.8.g)
  - h. Doe Run shall maintain a file noting kettle failures and corrective actions in reference to paragraph A(13) of the Consent Judgement (Projects Required as SIP Control Measures, paragraph 13 above). (§2.B.8.h)
  - i. Doe Run shall maintain a file of all TEOM reports, including detailed process logs and findings as provided in paragraph B(10) of the Consent Judgement (Enforcement Measures / Required Practices and Procedures, paragraph 10 above). (§2.B.8.i)
  - j. Doe Run shall maintain a file and report ambient concentrations recorded at Doe Run operated monitors as required in paragraph B(9) of the Consent Judgement (Enforcement Measures / Required Practices and Procedures, paragraph 9 above). (§2.B.8.j)
  - k. Doe Run shall maintain a file on the meteorological data referred to in paragraph B(10) of the Consent Judgement (Enforcement Measures / Required Practices and Procedures, paragraph 10 above) for submission upon request of MDNR. (§2.B.8.k)
  - l. Doe Run shall maintain a file and submit a quarterly report related to the environmental management system requirements of paragraph B(11) of the Consent Judgement (Enforcement Measures / Required Practices and Procedures, paragraph 11 above). (§2.B.8.l)
- 9) MDNR and Doe Run shall continue monitoring the air for lead at Dunklin High School, Main Street (otherwise known as City Hall monitoring site), and Broad Street in accordance with the every sixth day national monitoring schedule, or on a more frequent periodic schedule. The data from any monitor that is no longer located within ambient air shall be used solely for informational purposes and not for determining compliance with the 1.5 µg Pb/m<sup>3</sup> quarterly average lead standard. Doe Run shall continue data collection from these monitors until EPA has formally redesignated the Herculaneum Lead Nonattainment Area as an attainment area for lead. (§2.B.9)
- 10) Continuous Monitoring and Ongoing Evaluations. On or before April 7, 2007, Doe Run shall install and permanently operate two continuous particulate samplers utilizing tapered element oscillating microbalance (TEOM) technology. One shall be located at the Broad Street monitoring site and the other shall be located at the Main Street monitoring site. These samplers shall be operated according to manufacturers specifications and maintained to achieve a minimum of ninety (90) percent data capture. On or before April 7, 2008, Doe Run shall submit to MDNR proposed locations for sampling to update the chemical analyses (fingerprints) of sources within the plant that are representative of independent activities and locations to reflect process and operational changes that have or will occur since the previous study. Upon approval of the locations by MDNR, Doe Run shall collect samples and have them analyzed. Starting April 7, 2008, Doe Run shall collect and analyze all filters from the Doe Run operated Broad Street and Main Street monitors that meet either of the following conditions: (1) Any day that exceeds a reported concentration of 5.0 micrograms of lead per cubic meter; or (2) Any day that exceeds a reported concentration of 1.5 micrograms of lead per cubic meter and that falls on the every sixth day national monitoring schedule. The analysis shall include a review of the continuous particulate

monitoring, the daily ambient concentrations, wind speed and direction data, precipitation data, a summary of process throughputs, an identification of malfunctions, process upsets, or other conditions that may be expected to contribute to ambient impact, and a summary of the receptor analyses as required above. Doe Run shall provide these analyses in a quarterly report to MDNR. (§2.B.10)

- 11) Meteorological Monitoring: On or before April 7, 2007, Doe Run shall install and operate a set of instruments to record the following parameters: At the River Meteorological Station, 10 meter wind speed, 10 meter wind direction, 10 meter temperature, 2 meter temperature, delta T (2-10 meters), sigma-theta 10 meters, barometric pressure, relative humidity, incoming solar radiation, net radiation, and precipitation; and at the Broad Street Station, 2 meter wind speed, 2 meter wind direction, 2 meter temperature, 10 meter wind speed, 10 meter wind direction, 10 meter temperature, 40 meter wind speed, 40 meter wind direction, 40 meter temperature, delta T (2-10 meters), delta T (10-40 meters), delta T (2-40 meters), sigma-theta 10 meters, sigma-theta 40 meters, barometric pressure, relative humidity, incoming solar radiation, net radiation, and precipitation. The instruments shall record and process data as fifteen (15) minute and one (1) hour averages. The raw and processed fifteen (15) minute and one (1) hour average data shall be electronically archived and reported to MDNR upon request. Doe Run shall install, maintain, and respond to an automated alert system which will issue an alert when any data are not being recorded. Doe Run shall also conduct and log weekly visual inspections of the equipment to assure that the equipment appears to be operating appropriately. On a monthly basis Doe Run shall complete and log an inspection of the instruments by a qualified technician assuring that the equipment is recording appropriate values. If data capture falls below 90%, inspections that were conducted on a monthly basis will be conducted every other week. Once every three months, Doe Run shall audit, calibrate, and produce a report on the inspection of the instruments using calibration devices certified annually to NIST standards. Doe Run will have a complete unit backup system ready to be installed at all times. Doe Run will ensure that all sensor and data collection problems are rectified no later than 24 hours following detection. If Doe Run expects a problem will take longer than 24 hours to rectify, Doe Run will communicate this to MDNR no later than 24 hours following initial detection, and will report the cause for the delay and what they are doing to address the situation, and will institute measures to prevent such a delay in the future. All logs and reports will be archived by Doe Run and provided to MDNR upon request. Doe Run shall continue to operate these instruments until EPA has formally redesignated the Herculaneum Lead Nonattainment Area as an attainment area for lead. (§2.B.11)
- 12) By July 1, 2008, Doe Run shall implement an environmental management system, subject to MDNR approval, that at a minimum: (§2.B.12)
- a. Provides that any quarterly exceedance of the 1.5 µg Pb/m<sup>3</sup> quarterly average lead standard does not conform to Doe Run's policy; (§2.B.12.a)
  - b. Establishes that (i) any event reasonably likely to increase, or which actually increases, lead emissions from the Herculaneum facility above emissions related to normal operating processes; or (ii) any daily average detected at any ambient lead monitor in Herculaneum which exceeds 12 micrograms per cubic meter, does not conform to Doe Run's policy; (§2.B.12.b)
  - c. Establishes, and requires implementation and maintenance of, procedures for dealing with actual and potential nonconformities and for taking corrective action, including: (§2.B.12.c)
    - i) Identifying and correcting nonconformities and taking actions to mitigate their environmental impacts; (§2.B.12.c.1)
    - ii) Investigating nonconformities, determining their causes and taking actions to avoid their recurrence; (§2.B.12.c.2)

- iii) Evaluating the need for actions to prevent nonconformities and implementing appropriate actions to avoid their occurrence; (§2.B.12.c.3)
- iv) Recording the results of corrective and preventive actions taken; (§2.B.12.c.4)
- v) Reviewing the effectiveness of corrective and preventive actions taken; (§2.B.12.c.5)
- vi) Requiring continuous repetition of these EMS procedures and improvement of the Doe Run's processes and technology until all nonconformities are prevented or effectively mitigated; (§2.B.12.c.6) and
- vii) Maintaining all records necessary to demonstrate conformity with these requirements and the results achieved. (§2.B.12.c.7)

Upon implementation, Doe Run shall provide a quarterly report to MDNR on any nonconformity that relates to Doe Run's policy in paragraph B(12)(a) and (b) and any preventive or corrective action taken or proposed. Within 60 days of its receipt of the report, MDNR will advise Doe Run whether additional preventive or corrective action is required. All agreed items shall become a part of this Consent Judgment and fully enforceable hereunder. If the parties are unable to agree regarding any items, the matter shall be submitted for dispute resolution pursuant to paragraph E of the Consent Judgment. (§2.B.12.c)

### **Projects Required as Contingency Control Measures**

- 1) If the air quality data for the second calendar quarter of 2008, or any quarter thereafter, exceeds the 1.5 µg Pb/m<sup>3</sup> quarterly average lead standard, Doe Run shall begin implementation of these contingency measures upon written notification from MDNR, according to the following schedule. Additionally, if Doe Run fails to make Reasonable Further Progress (defined as the completion of the Projects Required in Section A of this Consent Judgment or required pursuant to this Section C(1) within the time frames set forth), Doe Run shall begin implementation of the contingency measures upon written notification from MDNR, according to the following schedule: (§2.C.1)

Projects a and b will be implemented within six months of receipt of the notice. If in any quarter after implementing projects a and b the 1.5 µg Pb/m<sup>3</sup> quarterly average lead standard is exceeded or Doe Run fails to make Reasonable Further Progress, MDNR shall notify Doe Run of such exceedance or failure and project c will be implemented within 18 months of receipt of the notice and project(s) to be identified in paragraph d shall be completed within a time frame to be determined by Doe Run and MDNR.. If in any quarter after implementing projects c and d the 1.5 µg Pb/m<sup>3</sup> quarterly average lead standard is exceeded or Doe Run fails to make Reasonable Further Progress, MDNR shall notify Doe Run of such exceedance or failure and project e will be implemented within 24 months of receipt of the notice. (§2.C.1)

- a) Enclose pugger, (§2.C.1.a)
- b) Pave haul road, (§2.C.1.b)
- c) Route Kettle heat stacks to main stack, (§2.C.1.c)
- d) Implement contingency measures identified as a result of the Technological Study for Fugitive Dust Control, (§2.C.1.d)
- e) e. Install dedicated ventilation to the sinter plant If Doe Run demonstrates to MDNR that Doe Run will implement Flubor<sup>®</sup> technology at the Herculaneum facility within thirty-six months of the date of notification of the violation that would otherwise require Doe Run to implement this paragraph e, Doe Run shall not be required to implement this paragraph e. If Doe Run does not implement Flubor<sup>®</sup> technology at the Herculaneum facility within thirty-six months as demonstrated, Doe Run must install dedicated ventilation to the sinter plant within 18 months of the earlier of: (1) the deadline for implementing Flubor<sup>®</sup> technology; or (2) when Doe Run determines it will not implement Flubor<sup>®</sup>

technology. MDNR may extend the period in which the Flubor<sup>®</sup> technology is to be implemented if Doe Run is making reasonable progress toward implementation. (§2.C.1.e)

- 2) In addition, when there is an exceedance of the quarterly average lead standard, the quarterly production limit for refined lead shall be reduced to 95% of the actual production during the exceedance quarter, and shall be reduced by an additional 5% below actual production for each subsequent quarter in which there is an exceedance, to a minimum production of 35,000 tons of refined lead per calendar quarter. For any quarter immediately following receipt of quality assured data demonstrating attainment, Doe Run may increase the production level for refined lead by 5% of the attainment quarter's actual production, to a maximum of 62,500 tons per each calendar quarter, provided that Doe Run implements control measures prior to increasing the production level. Prior to increasing production, Doe Run must demonstrate to MDNR that these control measures will reduce impacts on air quality to an equal or greater extent than the increased production limit will increase impacts on air quality. (§2.C.2)
- 3) If any daily average detected at any ambient lead monitor in Herculaneum exceeds 12 micrograms per cubic meter, Doe Run shall notify MDNR of such exceedance within two business days. Within five business days of the exceedance, Doe Run shall report to MDNR on the likely causes of the exceedance and the control measures Doe Run has implemented and will implement to avoid any additional exceedances in the same calendar quarter. The second exceedance of the daily average of 12 micrograms per cubic meter under this provision in any calendar quarter will be a violation of this agreement subject to penalties pursuant to paragraph D(3). Exceedances at two or more monitors on any day shall be considered one exceedance and each exceedance on different days shall be considered a separate exceedance, regardless of the monitor recording the exceedance. Any such penalty shall be waived if the quarterly average does not exceed the 1.5 µg Pb/m<sup>3</sup> quarterly average lead standard at any monitor. (§2.C.3)
- 4) Doe Run shall notify MDNR within 10 days of Doe Run's completion of any contingency measure. Within 60 days of such completion, Doe Run shall propose an additional quantified contingency measure to be added to this consent judgment. Upon approval by MDNR, the additional contingency measure shall become a part of this Consent Judgment and be fully enforceable hereunder. (§2.C.4)
- 5) If Doe Run identifies and demonstrates to MDNR's satisfaction alternative control measure(s) that would achieve equal or greater air quality improvements than the Contingency Measure(s) identified above, Doe Run may substitute the new control(s) for the contingency measure(s) identified above upon MDNR's approval. Any substitute contingency measure shall be implemented under the same time frame as the original measure, unless both parties agree to a modified contingency schedule. If the parties are unable to agree regarding any substitute contingency measure, the matter shall be submitted for dispute resolution pursuant to paragraph E of the Consent Judgment. (§2.C.1)
- 6) Nothing in this agreement shall prevent Doe Run from implementing the contingencies or additional emission controls not listed in this agreement prior to receiving notification from MDNR. (§2.C.6)

**Stipulated Penalties:**

- 1) If Doe Run fails to complete construction of the control measures set out in this Consent Judgment by the dates specified, Doe Run may be subject to stipulated penalties according to the following schedule. The penalties are per day, per violation, and may be assessed by MDNR beginning with the first day of violation after the scheduled deadline date. (§2.D.1)

<u>Period of Noncompliance</u>	<u>Penalty per Day of Violation</u>
First through 30 <sup>th</sup> day of noncompliance	\$1,000
31 <sup>st</sup> through 60 <sup>th</sup> day of noncompliance	\$2,000
61 <sup>st</sup> through 90 <sup>th</sup> day of noncompliance	\$3,000
91 <sup>st</sup> day of noncompliance and beyond	\$5,000

- 2) If Doe Run fails to comply with any other requirement of this Judgment, Doe Run may be subject to stipulated penalties according to the following schedule. The penalties are per day, per violation, and may be assessed by MDNR beginning with the first day of violation after the scheduled deadline date. (§2.D.2)

<u>Period of Noncompliance</u>	<u>Penalty per Day of Violation</u>
First through 30 <sup>th</sup> day of noncompliance	\$500
31 <sup>st</sup> through 60 <sup>th</sup> day of noncompliance	\$1,000
61 <sup>st</sup> through 90 <sup>th</sup> day of noncompliance	\$1,500
91 <sup>st</sup> day of noncompliance and beyond	\$2,500

- 3) If any daily average detected at any ambient lead monitor in Herculaneum exceeds 12 micrograms per cubic meter and constitutes a violation of this agreement pursuant to paragraph C(3) of the Consent Judgement (Projects Required as Contingency Control Measures, paragraph 3. above), Doe Run shall pay stipulated penalties according to the following schedule.

- a) a. First violation - \$1,000.00
- b) b. Second violation - \$2,000.00
- c) c. Third violation - \$3,000.00
- d) d. Fourth violation - \$5,000.00.

Any such penalty shall be waived if the quarterly average does not exceed the 1.5 µg Pb/m<sup>3</sup> quarterly average lead standard at any monitor. (§2.D.3)

- 4) All penalties shall be paid within 45 days of the date of notification of noncompliance unless Doe Run challenges the penalty pursuant to the Dispute Resolution procedure outlined in paragraph E of the Consent Judgement. If the penalty is challenged, it shall not be paid until 30 days after the Commission's determination that Doe Run owes the stipulated penalty, and Doe Run has failed to use, or has exhausted, its rights to review the Commission's Decision. (§2.D.4)
- 5) Stipulated penalties shall continue to accrue during the formal Dispute Resolution process or any appeal. In the event Doe Run prevails, stipulated penalties shall not be due or owed. (§2.D.5)
- 6) All penalties shall be paid by certified check made payable to the State of Missouri (Jefferson County Treasurer), and delivered to the Attorney General of Missouri, P.O. Box 899, Jefferson City, Missouri 65102-0899, Attention: JoAnn Horvath, Assistant Attorney General, or Designee. (§2.D.6)
- 7) The penalties set forth herein shall not apply in the event of a force majeure, as defined in this section. For the purposes of this Consent Judgment, force majeure shall be defined as any event arising from causes beyond the control of Doe Run and of any entity controlled by Doe Run that delays or interferes with the performance of any obligation under this Consent Judgment notwithstanding Doe Run's best efforts to avoid such an event. The requirement that Doe Run exercise "best efforts to avoid such an event" includes using best efforts to anticipate any potential force majeure event and best efforts to

address the effects of any force majeure event (1) as it is occurring, and (2) following the force majeure event such that the adverse effect or delay is minimized to the greatest extent practicable. Examples of events that are not force majeure events include, but are not limited to, increased costs or expenses of any work to be performed under this Consent Judgment. (§2.D.7)

- 8) If any event occurs that is likely to delay or interfere with the performance of an obligation under this Consent Judgment, whether or not caused by a force majeure event, Doe Run shall notify MDNR by telephone within 5 working days of Doe Run becoming knowledgeable of such event. Within 10 business days thereafter, Doe Run shall provide in writing the reasons for the event; the anticipated duration; all actions taken or to be taken to minimize its effects; a schedule for implementation of any measures to be taken to mitigate the event; and a statement as to whether, in the opinion of Doe Run, such an event may cause or contribute to the endangerment of public health, public welfare, or the environment. Failure to comply with these requirements shall preclude Doe Run from asserting any claim of force majeure. (§2.D.8)
- 9) If MDNR agrees that the delay or anticipated delay is attributable to a force majeure event, then the time for performance of any obligation under this Consent Judgment that is directly affected by the force majeure event shall be extended for a period of time not to exceed the actual duration of the delay caused by the force majeure event. (§2.D.9)
- 10) If MDNR does not agree that the delay or noncompliance has been or will be caused by a force majeure event, or does not agree with Doe Run on the length of any time extension, the issue shall be subject to the Dispute Resolution procedures set forth in paragraph E of this Consent Judgment. In any such proceeding, to qualify for force majeure defense Doe Run shall have the burden of demonstrating by a preponderance of the evidence that the delay or noncompliance has been or will be caused by a force majeure event, that its duration was or will be warranted under the circumstances, that Doe Run exercised or is exercising due diligence by using its best efforts to avoid and mitigate its effects, and that Doe Run complied with the requirements of paragraph (D)(8) of the Consent Judgment (paragraph 8 above). Should Doe Run carry the burden set forth in this paragraph (paragraph (D)(10) of the Consent Judgment), the delay or noncompliance at issue shall be deemed not to be a violation of the affected obligation of this Consent Judgment. (§2.D.10)
- 11) Upon the request of Doe Run, MDNR may in its unreviewable discretion impose a lesser penalty or no penalty at all for violations subject to stipulated penalties. (§2.D.11)

**Prior Consent Judgement:**

The provisions of paragraphs (B) and (C) of the prior Consent Judgement entered January 5, 2001, shall remain in full force and effect except to the extent they are inconsistent with the provisions of this judgement. To the extent the provisions of the judgements are inconsistent, the provisions of this judgement shall control. (§2.I.)

**Compliance Certification:**

Doe Run shall certify compliance with the provisions of this Consent Judgement as part of Doe Run's compliance certification obligations pursuant to its Title V Air Operating Permit for the Herculaneum Lead Smelter. (§2.K.)

### III) Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements.

<b>EU0010</b>			
Sinter Plant Process and Process Fugitive Emissions			
General Description:	Conveyor 21 Transfer to Conveyor 22, 135 ton/hr new feed	EQ Ref. # (2003)	Emissions
Control Device:	Custom Systems TD64-8 Baghouse, CD35	EU022B	B/H CD35 EP059

<b>EU0020</b>			
Sinter Plant Process and Process Fugitive Emissions			
General Description:	Sinter Plant Cage Packtor, Misc. Belts, 270 tons mixed feed/hr	EQ Ref. # (2003)	Emissions
Manufacturer:	Gundlach; 75-2c4E-131, 1967	EU028	B/H CD31 EP059
Sinter Returns Bin	150-Ton Sinter Bin (top)		
Conveyor 24 Tail End	Conveyor 23 Discharge to Cage Packtor		
Conveyor 36 Upper Middle	Cage Packtor		
Conveyor 36 Transfer to 150-Ton Sinter Bin			

<b>EU0030</b>			
Sinter Plant Process and Process Fugitive Emissions			
General Description:	Mix Sinter Feed and Convey , 270 tons mixed feed/hr	EQ Ref. # (2003)	Emissions
Manufacturer:	Allis Chalmers, 1967	EU024 EU058	B/H CD34 EP059
Mix Drum	Conveyor 24 transfer to Conveyor 25		

<b>EU0040</b>			
Sinter Plant Process and Process Fugitive Emissions			
General Description:	Sinter Machine and Claw Breaker, 73 ton/hr concentrate, pipeline natural gas, 33.6 MMBtu/hr , Sinter conveyor 39 to storage	EQ Ref. # (2003)	Emissions
Manufacturer:	McDonnell-Wellman, F-S306-H, 1964	EU013A & 13B EU027A	ESP CD11 #3B/H CD13 Acid Plant CD12 EP059
Sinter Machine	Claw Breaker		
Conveyor 39 Finished Sinter to Blast Furnace Storage Bins, 135 ton/hr			

<b>EU0050</b>			
Sinter Plant Process and Process Fugitive Emissions			
General Description:	Sinter Crushing and Screening, 270 tons/hr	EQ Ref. # (2003)	Emissions
Manufacturer:	Baghouse CD29, Research-Cottrell, 1990	EU027A	B/H CD29 EP059
Feeder 10	Undersized Sinter Corrugated Rolls		
Ross live Rolls	Euromag Conveyor Transfer		
Conveyor 29 and 29A	Euromag Conveyor		
Conveyor 38	Euromag		

<b>EU0060</b>			
Sinter Plant Process Emissions			
General Description:	Feed Conveyor to Carrier Cooler, Carrier Cooler, and Cooler Transfer to CV36, 135 ton/hr	EQ Ref. # (2003)	Emissions B/H CD30
Control Device:	B/H Research-Cottrell, 120-wmwc, 1990	EU027B	EP059

<b>EU0070</b>			
Sinter Plant Process Emissions			
General Description:	Cooler Baghouse Fume Transfer to #10 Bin, 50 ton/hr	EQ Ref. # (2003)	Emissions B/H CD28
		EU026	EP059

<b>EU0080</b>			
Sinter Plant Process and Process Fugitive Emissions			
General Description:	Undersized Sinter Smooth Roll Crushing, 135 ton/hr	EQ Ref. # (2003)	Emissions
Manufacturer:	McLanahan, 1986		
Conveyor 37A Transfer to Smooth Rolls	Conveyor 23 Middle	EU022	B/H CD23 EP059
76" Smooth Rolls	Smooth Roll B/H Transfer to Conveyor 23		
Conveyor 37B Transfer to Conveyor 23	#3 B/H Transfer to Conveyor 23		

<b>EU0090</b>			
Blast Furnace Process Emissions			
General Description:	Blast Furnace Feed Floor Charge Belts	EQ Ref. # (2003)	Emissions #6 B/H, CD15
		EU013C	EP059

<b>EU0100</b>			
Blast Furnace and Dross Plant Process Emissions			
General Description:	Two Blast Furnaces, 73 tons/hr of concentrate Four 250 ton Drossing Kettles, 47 ton/hr	EQ Ref. # (2003)	Emissions #5 B/H, CD14
Manufacturer/Model #:	St. Joe Lead Co., 1965	EU013C	EP059

<b>EU0110</b>			
Blast Furnace and Dross Plant Building Emissions			
General Description:	Blast Furnace and Dross Plant Building	EQ Ref. # (2003)	Emissions #7 B/H, CD37
Manufacturer/Model #:	St. Joe Lead Co., 1965	EU015B	EP015B

<b>EU0120</b>			
Refinery Kettles Process Emissions and Sinter Transfer			
General Description:	12, 250 ton Refining Kettles, Lead Casting, 163 ton/hr	EQ Ref. # (2003)	Emissions #8B/H CD38
	#1 Trestle Sinter transfer to CV10, 100 ton/hr		
Manufacturer/Model #:	St. Joe Lead Co., 1960	EU019	EP019E

<b>EU0130</b> Refinery Building Emissions			
General Description:	12, 250 ton Refining Kettles and Lead Casting, 163 ton/hr	EQ Ref. #	Emissions
Manufacturer/Model #:	St. Joe Lead Co., 1960	(2003)	#9B/H CD36
		EU019	EP019D

<b>EU0140</b> Strip Mill Process Emissions			
General Description:	Two Strip Mill Kettles, No. 41 and 42, 10 ton/hr	EQ Ref. #	Emissions
Manufacturer/Model #:	St. Joe Lead Co., 1979	(2003)	B/H CD25
		EU023	EP023

<b>EU0150</b> Lead Concentrate and Coke Barge Unloading			
General Description:	Barge Unloader	Unload Hopper, 180 ton/hr	EQ Ref. #
Manufacturer/Model #:	Doe Run, 1999		(2003)
			EU065B
			B/H CD65A
			EP065A

<b>EU0160</b> Materials Handling Building Process Emissions			
General Description:	Conveyor, 180 ton/hr	Truck Loading Building	EQ Ref. #
Manufacturer/Model #:	Doe Run, 1999		(2003)
			EU065C, D
			B/H CD65B
			EP065B

<b>Permit Condition (EU0010 through EU0160)-001</b>	
<b>10 CSR 10-6.075</b>	
<b>Maximum Achievable Control Technology Regulations</b>	
<b>40 CFR part 63, subpart TTT</b>	
<b>National Emission Standards for Hazardous Air Pollutants from Primary Lead Smelting – Process Emissions and Process Fugitive Emissions</b>	
<b>40 CFR part 63, subpart A</b>	
<b>General Provisions</b>	
<b>10 CSR 10-6.120</b>	
<b>Restriction of Emissions of Lead From Specific Lead Smelter-Refinery Installations</b>	
<b>40 CFR part 60, Appendix B</b>	
<b>Performance Specifications – Performance Specification 1</b>	

**Applicability:**

- I) The provisions of 40 CFR part 63, subpart TTT apply to the following affected sources at primary lead smelters: sinter machine, blast furnace, dross furnace, process fugitive sources, and fugitive dust sources. The provisions of this subpart do not apply to secondary lead smelters, lead refiners, or lead remelters. (§ 63.1541(a))
- II) The provisions of 10 CSR 10-6.120 applies to existing installations engaged in specific smelting and refining for the production of lead. (6.120(1)(A))

**Definitions:**

Terms used in this subpart are defined in the Act, in § 63.2, or in 40 CFR part 63, subpart TTT. (§ 63.1542)

- 1) *Dross furnace* means any smelting furnace to which drosses are charged and which chemically and physically separates lead from other impurities.
- 2) *Drossing and refining kettle* means an open-top vessel that is constructed of cast iron or steel and is heated from below and contains molten lead for the purpose of drossing, refining, or alloying lead. Included are pot furnaces, receiving kettles, and holding kettles.
- 3) *Plant operating time* means the period of time in hours that either a sinter machine or blast furnace is in operation.
- 4) *Process fugitive source* means a source of hazardous air pollutant emissions at a primary lead smelter that is associated with lead smelting or refining but is not the primary exhaust stream and is not a fugitive dust source. Process fugitive sources include sinter machine charging locations, sinter machine discharge locations, sinter crushing and sizing equipment, furnace charging locations, furnace taps, drossing kettles, and refining kettles.

**Emission Limitation Standards for Process and Process Fugitive Sources:**

- 1) No permittee of any existing, new, or reconstructed primary lead smelter shall discharge or cause to be discharged into the atmosphere lead compounds in excess of 500 grams of lead per megagram of lead metal produced (1.0 pounds of lead per ton of lead metal produced) from the aggregation of emissions discharged from the air pollution control devices used to control emissions from the sources listed in § 63.1543(a)(1) through § 63.1543(a)(9). (EU0010 through EU0100) (§ 63.1543(a))
  - a) Sinter machine; (§ 63.1543(a)(1))
  - b) Blast furnace; (§ 63.1543(a)(2))
  - c) Dross furnace; (§ 63.1543(a)(3))
  - d) Dross furnace charging location; (§ 63.1543(a)(4))
  - e) Blast furnace and dross furnace tapping location; (§ 63.1543(a)(5))
  - f) Sinter machine charging location; (§ 63.1543(a)(6))
  - g) Sinter machine discharge end; (§ 63.1543(a)(7))
  - h) Sinter crushing and sizing equipment; and (§ 63.1543(a)(8))
  - i) Sinter machine area. (§ 63.1543(a)(9))
- 2) The process fugitive sources listed in §§ 63.1543(a)(4) through (a)(8) shall be equipped with a hood and shall be ventilated to a baghouse or equivalent control device. The hood design and ventilation rate shall be consistent with American Conference of Governmental Hygienists recommended practices. (§ 63.1543(b))
- 3) The sinter machine area shall be enclosed in a building that is ventilated to a baghouse or equivalent control device at a rate that maintains a positive in-draft through any doorway opening. (§ 63.1543(c))
- 4) Except as provided in § 63.1543(e), following the initial test to demonstrate compliance with paragraph § 63.1543(a), the permittee of a primary lead smelter shall conduct a compliance test for lead compounds on an annual basis (no later than 12 calendar months following the previous compliance test). (§63.1543(d))
- 5) If the three most recent compliance tests demonstrate compliance with the emission limit specified in §63.1543(a), the permittee of a primary lead smelter shall be allowed up to 24 calendar months from the previous compliance test to conduct the next annual compliance test for lead compounds. (§ 63.1543(e))
- 6) The permittee of a primary lead smelter shall maintain and operate each baghouse used to control emissions from the sources listed in 40 CFR part 63, subpart TTT, §§ 63.1543(a)(1) through (a)(9) such that the alarm on a bag leak detection system required under § 63.1547(c)(9) does not sound for more than five percent of the total operating time in a six-month reporting period. (§ 63.1543(f))
- 7) The permittee of a primary lead smelter shall record the date and time of a bag leak detection system alarm and initiate procedures to determine the cause of the alarm according to the corrective action plan required

under § 63.1547(c)(9) within one hour of the alarm. The cause of the alarm shall be corrected as soon as practicable. (§ 63.1543(g))

- 8) The Doe Run Primary Lead Smelter-Refinery installation in Herculaneum, Missouri shall limit lead emissions into the atmosphere to the allowable amount as shown in Table II. (10 CSR 10-6.120(2)(B))

Table II

Main Stack,	EU0010 through EU0100	794 pounds lead per 24 hours
No. 7 and 9 Baghouse Stack,	EU0110 and EU0130	56.6 pounds lead per 24 hours
No. 8 Baghouse Stack,	EU0120	8.2 pounds lead per 24 hours

**Compliance Date:**

- 1) The permittee of an existing primary lead smelter shall achieve compliance with 40 CFR part 63, subpart TTT no later than May 4, 2001. (§ 63.1545(a))
- 2) Except as provided in section 112 of the Act, the compliance date established for an existing source will not exceed three years after the effective date of such standard (§63.6(c))

**Testing Requirements:**

The permittee must comply with Permit Condition PW003, Testing Requirements.

**Test Methods:**

- 1) The permittee must comply with Permit Condition PW003, Test Methods Lead Compounds for 40 CFR part 63, subpart TTT. (§ 63.1546(a))
- 2) The permittee must comply with Permit Condition PW003, Test Methods Lead Compounds (1) and Test Methods-Opacity for 10 CSR 10-6.120(1)(C)1. and 2.

**Monitoring Requirements:**

Table 1 of 40 CFR part 63, subpart TTT specifies the provisions of subpart A that apply and those that do not apply to owners or operators of primary lead smelters subject to 40 CFR part 63, subpart TTT. The provisions of § 63.8 apply to subpart TTT. (§ 63.1541(b))

- 1) Baghouse/Fabric Filter: Owners and operators of primary lead smelters shall prepare, and at all times operate according to, a standard operating procedures manual that describes in detail procedures for inspection, maintenance, and bag leak detection and corrective action plans for all baghouses (fabric filters) that are used to control process, process fugitive, or fugitive dust emissions from any source subject to the lead emission standards in §§ 63.1543 and 63.1544, including those used to control emissions from general ventilation systems. (§ 63.1547(a)) The Baghouse S.O.P. Plan is located in Attachment F of this permit, and is applicable to the baghouses in EU0010 through EU0160.
- 2) The standard operating procedures manual for baghouses required by § 63.1547(a) shall be submitted to the Administrator or delegated authority for review and approval. (§ 63.1547(b))  
The procedures specified in the standard operating procedures manual for inspections and routine maintenance shall, at a minimum, include the requirements of §§ 63.1547(c)(1) through (c)(9) of this section. (§ 63.1547(c))
  - a) Daily monitoring of pressure drop across each baghouse cell to insure pressure drop is within the normal operating range identified in the standard operating procedures manual. (§ 63.1547(c)(1)) The pressure drop shall be recorded on Attachment G or an equivalent form.
  - b) Weekly confirmation that dust is being removed from hoppers through visual inspection, or equivalent means of ensuring the proper functioning of removal mechanisms. (§ 63.1547(c)(2))
  - c) Daily check of compressed air supply for pulse-jet baghouses. (§ 63.1547(c)(3))

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- d) Appropriate methodology for monitoring cleaning cycles to ensure proper operation. (§ 63.1547(c)(4))
  - e) Monthly check of bag cleaning mechanisms for proper functioning through visual inspection or equivalent means. (§ 63.1547(c)(5))
  - f) Quarterly check of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (knead or bent) or lying on their sides. Such checks are not required for shaker-type baghouses using self-tensioning (spring-loaded) devices. (§ 63.1547(c)(6))
  - g) Quarterly confirmation of the physical integrity of the baghouse through visual inspection of the baghouse interior for air leaks. (§ 63.1547(c)(7))
  - h) Quarterly inspection of fans for wear, material buildup, and corrosion through visual inspection, vibration detectors, or equivalent means. (§ 63.1547(c)(8))
  - i) Except as provided in § 63.1547(h), continuous operation of a bag leak detection system for EU0010 through EU0160. (§ 63.1547(c)(9))
- 4) The procedures specified in the standard operating procedures manual for maintenance shall, at a minimum, include a preventative maintenance schedule that is consistent with the baghouse manufacturer's instructions for routine and long-term maintenance. (§63.1547(d))
  - 5) The bag leak detection system required by § 63.1547(c)(9) shall meet the specifications and requirements of §§ 63.1547(e)(1) through (e)(8). (§ 63.1547(e))
    - a) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligram per actual cubic meter (0.0044 grains per actual cubic foot) or less. (§ 63.1547(e)(1))
    - b) The bag leak detection system sensor must provide output of relative particulate matter loadings, and the permittee shall continuously record the output from the bag leak detection system. (§63.1547(e)(2))
    - c) The bag leak detection system must be equipped with an alarm system that will sound when an increase in relative particulate loading is detected over a preset level, and the alarm must be located such that it can be heard by the appropriate plant personnel. (§ 63.1547(e)(3))
    - d) Each bag leak detection system that works based on the triboelectric effect shall be installed, calibrated, and maintained in a manner consistent with guidance provided in the U.S. Environmental Protection Agency guidance document "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015). Other bag leak detection systems shall be installed, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations. (§ 63.1547(e)(4))
    - e) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time. (§ 63.1547(e)(5))
    - f) Following initial adjustment, the permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the approved SOP required under §63.1547(a). In no event shall the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies that the baghouse has been inspected and found in good operating condition. (§ 63.1547(e)(6))
    - g) For negative pressure, induced air baghouses and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector must be installed downstream of the baghouse and upstream of any wet acid gas scrubber. (§ 63.1547(e)(7))
    - h) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. (§ 63.1547(e)(8))
  - 6) The standard operating procedures manual required by paragraph § 63.1547(a) shall include a corrective action plan that specifies the procedures to be followed in the case of a bag leak detection system alarm. The corrective action plan shall include, at a minimum, procedures to be used to determine the cause of the alarm, as well as actions to be taken to minimize emissions, which may include, but are not limited to, the following. (§ 63.1547(f))

- 
- a) Inspecting the baghouse for air leaks, torn or broken filter elements, or any other malfunction that may cause an increase in emissions. (§ 63.1547(f)(1))
  - b) Sealing off defective bags or filter media. (§ 63.1547(f)(2))
  - c) Replacing defective bags or filter media, or otherwise repairing the control device. (§ 63.1547(f)(3))
  - d) Sealing off a defective baghouse compartment. (§ 63.1548(f)(4))
  - e) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system. (§ 63.1547(f)(5))
  - f) Shutting down the process producing the particulate emissions. (§ 63.1547(f)(6))
- 7) The percentage of total operating time the alarm on the bag leak detection system sounds in a 6-month reporting period shall be calculated in order to determine compliance with the five percent operating limit in § 63.1543(f). The percentage of time the alarm on the bag leak detection system sounds shall be determined according to § 63.1547(g)(1) through (g)(5). (§ 63.1547(g))
- a) Alarms that occur due solely to a malfunction of the bag leak detection system shall not be included in the calculation. (§ 63.1547(g)(1))
  - b) Alarms that occur during startup, shutdown, or malfunction shall not be included in the calculation if the condition is described in the startup, shutdown, and malfunction plan and the permittee operates the source during such periods in accordance with § 63.6(e). (§ 63.1547(g)(2))
  - c) For each alarm where the permittee initiates procedures to determine the cause of the alarm within 1 hour of the alarm, 1 hour of alarm time shall be counted. (§ 63.1547(g)(3))
  - d) For each alarm where the permittee does not initiate procedures to determine the cause of the alarm within 1 hour of the alarm, alarm time will be counted as the actual amount of time taken by the permittee to initiate procedures to determine the cause of the alarm. (§ 63.1547(g)(4))
  - e) The percentage of time the alarm on the bag leak detection system sounds shall be calculated as the ratio of the sum of alarm times to the total operating time multiplied by 100. (§ 63.1547(g)(5))
- 8) The permittee shall monitor sinter machine building in-draft to demonstrate continued compliance with the operating standard specified in § 63.1543(c) in accordance with §§ 63.1547(i)(1), (i)(2), or (i)(3). (§63.1547(i))
- a) The permittee shall check and record on a daily basis doorway in-draft at each doorway in accordance with the methodology specified in § 63.1546(b). (§ 63.1547(i)(1))
  - b) The permittee shall establish and maintain baseline ventilation parameters that result in a positive in-draft according to § 63.1547(i)(2)(i) through § 63.1547(i)(2)(iv). (§ 63.1547(i)(2))
    - (i) The permittee shall install, calibrate, maintain, and operate a monitoring device that continuously records the actual volumetric flow rate through each separately ducted hood; or install, calibrate, maintain, and operate a monitoring device that continuously records the volumetric flow rate at the control device inlet of each exhaust system ventilating the building. The flow rate monitoring device(s) can be installed in any location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy of plus or minus 10 percent over its normal operating range and shall be calibrated according to manufacturer's instructions. (§ 63.1547(i)(2)(i))
    - (ii) During the initial demonstration of sinter building in-draft, and at any time the permittee wishes to re-establish the baseline ventilation parameters, the permittee shall continuously record the volumetric flow rate through each separately ducted hood, or continuously record the volumetric flow rate at the control device inlet of each exhaust system ventilating the building and record exhaust system damper positions. The permittee shall determine the average volumetric flow rate(s) corresponding to the period of time the in-draft compliance determinations are being conducted. (§ 63.1547(i)(2)(ii))

- (iii) The permittee shall maintain the volumetric flow rate(s) at or above the value(s) established during the most recent in-draft determination at all times the sinter machine is in operation. Volumetric flow rate(s) shall be calculated as a 15-minute average. (§ 63.1547(i)(2)(iii))
- (iv) If the volumetric flow rate is monitored at the control device inlet, the permittee shall check and record damper positions daily to ensure they are in the positions they were in during the most recent in-draft determination. (§ 63.1547(i)(2)(iv))
- c) The permittee may request an alternative monitoring method by following the procedures and requirements in § 63.8(f) of the General Provisions. (§ 63.1547(i)(3))

**Recordkeeping:**

- 1) The permittee of a primary lead smelter shall comply with all of the recordkeeping requirements of § 63.10 of subpart A, *General Provision*. (§ 63.1549(a))
- 2) In addition to the general records required by § 63.1549(a), each permittee of a primary lead smelter shall maintain for a period of five years, records of the following information. (§ 63.1549(b))
  - a) Production records of the weight and lead content of lead products, copper matte, and copper speiss. (§ 63.1549(b)(1))
  - b) Records of the bag leak detection system output. (§ 63.1549(b)(2))
  - c) An identification of the date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, and the date and time the cause of the alarm was corrected. (§ 63.1549(b)(3))
  - d) Any recordkeeping required as part of the practices described in the standard operating procedures manual required under § 63.1544(a) for the control of fugitive dust emissions. (§ 63.1549(b)(4))
  - e) Any recordkeeping required as part of the practices described in the standard operating procedures manual for baghouses required under § 63.1547(a). (§ 63.1549(b)(5))
  - f) If the permittee chooses to demonstrate continuous compliance with the sinter building in-draft requirement under § 63.1543(c) by employing the method allowed in (§ 63.1546(i)(1), the records of the daily doorway in-draft checks, an identification of the periods when there was not a positive in-draft, and an explanation of the corrective actions taken. (§ 63.1549(b)(6))
  - g) If the permittee chooses to demonstrate continuous compliance with the sinter building in-draft requirement under § 63.1543(c) by employing the method allowed in (§ 63.1546(i)(2), the records of the output from the continuous volumetric flow monitor(s), an identification of the periods when the 15-minute volumetric flow rate dropped below the minimum established during the most recent in-draft determination, and an explanation of the corrective action taken. (§ 63.1549(b)(7))
  - h) If the permittee chooses to demonstrate continuous compliance with the sinter building in-draft requirement under § 63.1543(c) by employing the method allowed in (§ 63.1546(i)(2), and volumetric flow rate is monitored at the baghouse inlet, records of the daily checks of damper positions, an identification of the days that the damper positions were not in the positions established during the most recent in-draft determination, and an explanation of the corrective action taken. (§ 63.1549(b)(8))
- 3) Records for the most recent two years of operation must be maintained on site. Records for the previous three years may be maintained off site. (§ 63.1549(c))

**Reporting:**

- 1) The permittee of a primary lead smelter shall comply with all of the reporting requirements of § 63.10 of subpart A, *General Provision*. (§ 63.1549(d))
- 2) In addition to the information required under § 63.10 of the General Provisions, the permittee shall provide semi-annual reports containing the information specified in § 63.1549(e)(1) through (7) to the Director. (§ 63.1549(e))

- a) The reports shall include records of all alarms from the bag leak detection system specified in §63.1547(e). (§ 63.1549(e)(1))
- b) The reports shall include a description of the actions taken following each bag leak detection system alarm pursuant to § 63.1547(f). (§ 63.1549(e)(2))
- c) The reports shall include a calculation of the percentage of time the alarm on the bag leak detection system sounded during the reporting period pursuant to § 63.1547(g). (§ 63.1549(e)(3))
- d) If the permittee chooses to demonstrate continuous compliance with the sinter building in-draft requirement under § 63.1543(c) by employing the method allowed in § 63.1546(i)(1), the reports shall contain an identification of the periods when there was not a positive in-draft, and an explanation of the corrective actions taken. (§ 63.1549(e)(4))
- e) If the permittee chooses to demonstrate continuous compliance with the sinter building in-draft requirement under § 63.1543(c) by employing the method allowed in § 63.1546(i)(2), the reports shall contain an identification of the periods when the 15-minute volumetric flow rate(s) dropped below the minimum established during the most recent in-draft determination, and an explanation of the corrective actions taken. (§ 63.1549(e)(5))
- f) If the permittee chooses to demonstrate continuous compliance with the sinter building in-draft requirement under § 63.1543(c) by employing the method allowed in § 63.1546(i)(2), and volumetric flow rate is monitored at the baghouse inlet, the reports shall contain an identification of the days that the damper positions were not in the positions established during the most recent in-draft determination, and an explanation of the corrective actions taken. (§ 63.1549(e)(6))
- g) The reports shall contain a summary of the records maintained as part of the practices described in the standard operating procedures for baghouses required under § 63.1547(a), including an explanation of the periods when the procedures were not followed and the corrective actions taken. (§ 63.1549(e)(7))

**Permit Condition EU0010-002**

**10 CSR 10-6.400**

**Restriction of Emissions of Particulate Matter From Industrial Processes**

**Emission Limitations:**

- 1) Particulate matter shall not be emitted from the CV-21/CV-22 transfer system in excess of that allowed by the formula;  $PM \text{ lb/hr} = 55.0 P^{0.11} - 40$ . The limit for the process is 54.3 lb PM/hr.
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring/Recordkeeping:**

The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Reporting:**

The permittee shall report to the ACP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

**Permit Condition EU0020-002**  
**10 CSR 10-6.400**

**Restriction of Emissions of Particulate Matter From Industrial Processes**

**Emission Limitations:**

- 1) Particulate matter shall not be emitted from the cage paktor and sinter returns bin in excess of that allowed by the formula;  $PM\ lb/hr = 55.0 P^{0.11} - 40$ . The limit for the process is 66.5 lb PM/hr.
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring/Recordkeeping:**

The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Reporting:**

The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

**Permit Condition EU0030-002**  
**10 CSR 10-6.400**

**Restriction of Emissions of Particulate Matter From Industrial Processes**

**Emission Limitations:**

- 1) Particulate matter shall not be emitted from the mix drum and CV-24/CV-25 transfer system in excess of that allowed by the formula;  $PM\ lb/hr = 55.0 P^{0.11} - 40$ . The limit for the process is 69.9 lb PM/hr.
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring/Recordkeeping:**

The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Reporting:**

The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

**Permit Condition EU0040-002**  
**10 CSR 10-6.400**

**Restriction of Emissions of Particulate Matter From Industrial Processes**

**Emission Limitations:**

- 1) Particulate matter shall not be emitted from the sinter plant, claw breaker and CV-39 in excess of that allowed by the formula;  $PM\ lb/hr = 55.0 P^{0.11} - 40$ . The limit for the process is 61.8 lb PM/hr.
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring/Recordkeeping:**

The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Reporting:**

The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

**Permit Condition EU0050-002  
10 CSR 10-6.400**

**Restriction of Emissions of Particulate Matter From Industrial Processes**

**Emission Limitations:**

- 1) Particulate matter shall not be emitted from the sinter crusher and screening system in excess of that allowed by the formula;  $PM \text{ lb/hr} = 55.0 P^{0.11} - 40$ . The limit for the process is 61.8 lb PM/hr.
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring/Recordkeeping:**

The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Reporting:**

The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

**Permit Condition EU0060-002  
10 CSR 10-6.400**

**Restriction of Emissions of Particulate Matter From Industrial Processes**

**Emission Limitations:**

- 1) Particulate matter shall not be emitted from the carrier cooler in excess of that allowed by the formula;  $PM \text{ lb/hr} = 55.0 P^{0.11} - 40$ . The limit for the process is 54.3 lb PM/hr.
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring/Recordkeeping:**

The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Reporting:**

The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

**Permit Condition EU0070-002  
10 CSR 10-6.400**

**Restriction of Emissions of Particulate Matter From Industrial Processes**

**Emission Limitations:**

- 1) Particulate matter shall not be emitted from the #10 bin in excess of that allowed by the formula  $PM \text{ lb/hr} = 55.0 P^{0.11} - 40$ . The limit for the process is 44.6 lb PM/hr.
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring/Recordkeeping:**

The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Reporting:**

The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

<b>Permit Condition EU0080 -002</b>	
<b>10 CSR 10-6.070</b>	
<b>New Source Performance Regulations</b>	<b>40 CFR part 60, subpart R</b>
<b>Standards of Performance for Primary Lead Smelters</b>	<b>10 CSR 10-6.220</b>
<b>Restriction of Emission of Visible Air Contaminants</b>	<b>40 CFR part 63, subpart A</b>
<b>General Provisions</b>	<b>40 CFR part 60, Appendix A</b>
<b>Appendix A to Part 60 – Test Methods - § 60.8</b>	<b>40 CFR part 60, Appendix B</b>
<b>Performance Specification 1</b>	

**Applicability:**

- 1) The provisions of 40 CFR part 60, subpart R is applicable to the sintering machine discharge end smooth rolls. (§ 60.180(a))
- 2) Any facility under § 60.180 (a) that commences construction or modification after October 16, 1974, is subject to the requirements of 40 CFR part 60, subpart R. (§ 60.180(b))
- 3) The sinter machine discharge end smooth rolls shall have a COMS installed, calibrated, maintained and operated in accordance with 40 CFR part 60, Performance Specification 1: (10 CSR 10-6.220(3)(E))
  - a) Sources that require COMS under 10 CSR 10-6.070 NSPS. (10 CSR 10-6.220(3)(E)(3.))

**Definitions:**

- 1) *Sintering machine discharge end* means any apparatus, which receives sinter as it is discharged from the conveying grate of a sintering machine. (§ 60.181(d))

**Emission Limitations:**

- 1) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no permittee subject to 40 CFR part 60, subpart R shall cause to be discharged into the atmosphere from the sintering machine discharge end any gases that contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf). (§ 60.182(a))
- 2) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no permittee subject to 40 CFR part 60, subpart R shall cause to be discharged into the atmosphere from the sintering machine discharge end any gases that exhibit greater than 20 percent opacity. (§ 60.184(a))

**Monitoring and Recordkeeping:**

- 1) The permittee of any primary lead smelter subject to the provisions of 40 CFR part 60, subpart R shall install and operate: (§ 60.185(a))

- a) A continuous opacity monitoring system (COMS) to monitor and record the opacity of gases discharged into the atmosphere from the sintering machine discharge end. The span of this system shall be set at 80 to 100 percent opacity. (§60.185(a)(1))
- 2) All COMS for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. (§ 60.13(e)(1))
  - a) Source operating time includes any time fuel is being combusted and/or a fan is being operated. (10 CSR 10-6.220(H)1.)
  - b) Records shall be maintained of all information reported in the quarterly summaries and all six-minute opacity averages and daily Quality Assurance (QA)/ Quality Control (QC) records. (10 CSR 10-6.220(4)(B)1. and 2.)
- 3) The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Test Methods and Procedures:**

- 1) In conducting the performance tests required in § 60.8, the permittee shall use as reference and procedures the test methods in 40 CFR part 60, Appendix A. (§ 60.186(a))
- 2) The permittee shall determine compliance with the particulate matter and visible emission standards in §§60.182, and 60.184 as follows: (§ 60.186(b))
  - a) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm. (30 dscf) (§ 60.186(b)(1))
  - b) Method 9 and the procedures in § 60.11 shall be used to determine opacity. (§ 60.186(b)(3))

**Reporting:**

- 1) The permittee required to install COMS shall submit a quarterly written report to the Director. The report shall be post-marked no later than the thirtieth day following the end of each calendar quarter, and shall include the following emissions data: (10 CSR 10-6.220(4)(A))
  - a) A summary including total time for each cause of excess emissions and/or monitor downtime; (10 CSR 10-6.220(4)(A)1.)
  - b) Nature and cause of excess emissions, if known; (10 CSR 10-6.220(4)(A)2.)
  - c) The six-minute average opacity values greater than the opacity emission requirements (The average of the values shall be obtained by using the procedures specified in the Reference Method used to determine the opacity of the visible emissions); ((10 CSR 10-6.220(4)(A)3.)
  - d) The date and time identifying each period during which the COMS was inoperative (except for zero and span checks), including the nature and frequency of system repairs or adjustments that were made during these times; and (10 CSR 10-6.220(4)(A)4.)
  - e) If no excess emissions have occurred during the reporting period and the COMS has not been inoperative, repaired or adjusted, this information shall be stated in the report. (10 CSR 10-6.220(4)(A)5.)

**Permit Condition EU0090-002**

**10 CSR 10-6.400**

**Restriction of Emissions of Particulate Matter From Industrial Processes**

**Emission Limitations:**

- 1) Particulate matter shall not be emitted from the blast furnace charge belts in excess of that allowed by the formula;  $PM \text{ lb/hr} = 55.0 P^{0.11} - 40$ . The limit for the process is 48.2 lb PM/hr.
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring/Recordkeeping:**

The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Reporting:**

The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

**Permit Condition EU0100-002  
10 CSR 10-6.400**

**Restriction of Emissions of Particulate Matter From Industrial Processes**

**Emission Limitations:**

- 1) Particulate matter shall not be emitted from the blast furnaces and drossing kettles in excess of that allowed by the formula;  $PM \text{ lb/hr} = 55.0 P^{0.11} - 40$ . The limit for the process is 59.7 lb PM/hr.
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring/Recordkeeping:**

The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Reporting:**

The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

**Permit Condition EU0110-002  
10 CSR 10-6.400**

**Restriction of Emissions of Particulate Matter From Industrial Processes**

**Emission Limitations:**

- 1) Particulate matter shall not be emitted from the blast furnace and dross building in excess of that allowed by the formula;  $PM \text{ lb/hr} = 55.0 P^{0.11} - 40$ . The limit for the process is 44.6 lb PM/hr.
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring/Recordkeeping:**

The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Reporting:**

The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

**Permit Condition EU0120-002**  
**10 CSR 10-6.400**

**Restriction of Emissions of Particulate Matter From Industrial Processes**

**Emission Limitations:**

- 1) Particulate matter shall not be emitted from the refinery kettles and sinter transfer to CV-10 in excess of that allowed by the formula;  $PM\ lb/hr = 55.0 P^{0.11} - 40$ . The limit for the process is 61.5 lb PM/hr.
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring/Recordkeeping:**

The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Reporting:**

The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

**Permit Condition EU0130-002**  
**10 CSR 10-6.400**

**Restriction of Emissions of Particulate Matter From Industrial Processes**

**Emission Limitations:**

- 1) Particulate matter shall not be emitted from the refinery building in excess of that allowed by the formula;  $PM\ lb/hr = 55.0 P^{0.11} - 40$ . The limit for the process is 56.3 lb PM/hr.
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring/Recordkeeping:**

The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Reporting:**

The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

**Permit Condition (EU0150 and EU0160)-002**  
**10 CSR 10-6.060**

**Construction Permit Required – Construction Permit No-1099-004**

**Emission Limitation:**

- 1) Condition No.1. The permittee shall emit into the atmosphere from the lead concentrate barge unloading equipment less than 0.6 tons of lead (Pb) in any 12-month rolling average.

**Monitoring:**

- 1) Condition No. 4. The baghouses must be in use at all times when EU0150 or EU0160 are in operation.
- 2) Condition No. 6. The permittee shall conduct stack performance testing to verify 90 % capture efficiency and 99% control efficiency for the baghouses.
- 3) The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Record keeping:**

- 1) Condition No. 2. The permittee shall maintain the monthly and the sum of the most recent consecutive 12-month records of the lead emissions from operation of the equipment. Attachment H or an equivalent form can be used to demonstrate compliance with Condition No. 1. The records shall be maintained for 5 years and shall be made available for inspection to the Missouri Department of Natural Resources (DNR) upon request.

**Reporting:**

- 1) Condition No. 3. The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which monthly Lead Tracking Records (Condition No. 2.) indicate that the permittee has exceeded the limitation of Condition No. 1., or any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of the regulation.

**Permit Condition (EU0150 and EU0160)-003**

**10 CSR 10-6.400**

**Restriction of Emission of Particulate Matter from Industrial Processes**

**10 CSR 10-6.060**

**Construction Permit Required – Construction Permit No. 092001-012**

**10 CSR 10-6.065**

**Operating Permits – Reasonably Anticipated Operating Scenarios**

**Anticipated Operating Scenario:**

- 1) Permit Condition (EU0150 and EU0160)-003 is applicable when coke is being unloaded from a barge.
- 2) The permittee is authorized to change to the alternative operating scenario without notice by recording in a log at the installation the scenario under which it is operating contemporaneous with changing from one operating scenario to another.

**Emission Limitation:**

- 1) Particulate matter shall not be emitted from EU0150 or EU0160 in excess of that allowed by the formula;
- 2)  $PM \text{ lb/hr} = 55P^{0.11} - 40$ . The limit for each system is 54.7 lb PM/hr.  
The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

**Monitoring:**

- 1) Condition No. 1. The baghouses must be in use at all times when EU0150 or EU0160 are in operation.
- 2) The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Record keeping:**

- 1) The records shall be maintained for 5 years and shall be made available for inspection to the Missouri Department of Natural Resources (DNR) upon request.
- 2) The permittee shall record the change to an alternate operating scenario on Attachment I, or an equivalent form created by the permittee.

**Reporting:**

- 1) The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of the regulation.

<b>EU0170</b>			
Plant Fugitive Dust			
Plant Roadways, Sinter Machine Area Fugitives, Furnace Area Fugitives, Refining and Casting Area Fugitives and Materials Storage and Handling Areas Fugitives			
General Description:	EIQ Ref. #	General Description	EIQ Ref #
Railcar Concentrate Unloading	EP001-A	Secondaries Unloading	EP055B
Railcar Fume Unloading	EP001-B	Blast Furnace Slag Storage	EP056
Sintering Plant Building	EP006	Blast Furnace Slag Unloading	EP056B
#3 B/H Roof Vent Fugitives	EP014	Sinter Storage	EP057
#5 B/H Roof Vent Fugitives	EP017	Sinter Transfer to #4 Trestle	EP057B
Fume Loading	EP017B	Sinter Transfer to/from Storage	EP057C
Finish Sinter RR & Truck Loadout	EP021	Dross Loading and Unload/ Storage	EP058
Strip Mill Roof Vents	EP023B	#1 Trestle Transfer to CV-10	EP060
Concentrate Storage	EP050	Sinter Plant Mix Room Unloading	EP061
Concentrate Unloading	EP051	Secondaries Railcar Loading	EP062
Secondaries Storage	EP055	Plant Wide Resuspension	EP199B

<b>Permit Condition EU0170-001</b>
<b>10 CSR 10-6.075</b>
<b>Maximum Achievable Control Technology Regulations</b>
<b>40 CFR part 63, subpart TTT</b>
<b>National Emission Standards for Hazardous Air Pollutants from Primary Lead Smelting – Fugitive Emissions</b>
<b>40 CFR part 63, subpart A</b>
<b>General Provisions</b>
<b>10 CSR 10-6.120</b>
<b>Restriction of Emissions of Lead From Specific Lead Smelter-Refinery Installations</b>

**Definition:**

Terms used in this subpart are defined in the Act, in § 63.2, or in 40 CFR part 63, subpart TTT. (§ 63.1542)

- 1) *Fugitive dust source* means a stationary source of hazardous air pollutant emissions at a primary lead smelter resulting from the handling, storage, transfer, or other management of lead bearing materials where the source is not associated with a specific process, process vent, or stack. Fugitive dust sources include roadways, storage piles, materials handling transfer points, and material transport areas.

**Standards for Fugitive Dust Sources:**

- 1) Each permittee of a primary lead smelter shall prepare, and at all times operate according to, a standard operating procedures manual that describes in detail the measures that will be put in place to control fugitive dust emissions from the sources listed in §§ 63.1544(a)(1) through (a)(5). (§ 63.1544(a))
  - a) Plant roadways; (§ 63.1544(a)(1))
  - b) Material storage and handling area(s); (§ 63.1544(a)(2))
  - c) Sinter machine area(s); (§ 63.1544(a)(3))

- d) Furnace area(s); and (§ 63.1544(a)(4))
- e) Refining and casting area(s). (§ 63.1544(a)(5))
- 2) Notwithstanding § 63.1544(c), the standard operating procedures manual shall be submitted to the APCP for review and approval. (§ 63.1544(b))
- 3) Existing manuals that describe the measures in place to control fugitive dust sources required, as part of a State Implementation Plan for lead, shall satisfy the requirements of § 63.1544(a) provided they address the sources listed in §§ 63.1544(a)(1) through (a)(5). (§ 63.1544(c))

**Notification Requirements:**

- 1) The permittee of a primary lead smelter shall comply with all of the notification requirements of 40 CFR part 63, subpart A, General Provisions, §63.9. (§ 63.1548(a))
- 2) The permittee of a primary lead smelter shall submit the fugitive dust control standard operating procedures manual required under § 63.1544(a) to the Director along with a notification that the smelter is seeking review and approval of the plan and procedures. The permittee of an existing primary lead smelter shall submit this notification no later than November 6, 2000. (§ 63.1548(b))

**Monitoring:**

- 1) The work practice manual shall be the method of determining compliance with the fugitive dust standards. (10 CSR 10-6.120(3)(D)2.

**Recordkeeping:**

- 1) The permittee of a primary lead smelter shall comply with all of the record keeping requirements of 40 CFR part 63, subpart A, General Provisions, § 63.10. (§ 63.1549(a))
- 2) In addition to the general records required by § 63.1549(a), the permittee of a primary lead smelter shall maintain for a period of five years, any records required as part of the practices described in the standard operating procedures manual under § 63.1544(a) for the control of fugitive dust emissions. (§63.1549(b)(4))
- 3) The permittee shall keep daily records of the fugitive dust control measures performed to demonstrate compliance with the standard operating procedures manual required under § 63.1544(a). (§ 63.1549(e)(8))
- 4) The work practice manual shall contain the requirement that records of inspection made by the operator of fugitive emissions control equipment such as hoods, air ducts and exhaust fans be maintained by the operator. 10 CSR 10-6.120(3)(C)2.
- 5) Records for the most recent two years of operation must be maintained on site. Records for the previous 3 years may be maintained off site. (§ 63.1549(c))

**Reporting:**

- 1) The permittee of a primary lead smelter shall comply with all of the reporting requirements of 40 CFR part 63, subpart A, General Provisions, § 63.10. (§ 63.1549(d))
- 2) In addition to the information required under § 63.10, of the General Provisions, the permittee shall provide semi-annual reports containing a summary of the fugitive dust control measures performed during the required reporting period, including an explanation of any periods when the procedures outlined in the standard operating procedures manual were not followed and the corrective action taken. The reports shall not contain copies of the daily records required to demonstrate compliance with the requirements of the standard operating procedures manual required under § 63.1544(a). (§ 63.1549(e)(8))
- 3) Any change to the manual proposed by the permittee following the initial approval shall be requested in writing to the Director. Any proposed change shall demonstrate that the change in the work practice will not lessen the effectiveness of the fugitive emission reductions for the work practice involved. Written approval by the Director is required before any change becomes effective in the manual. (10 CSR 10-6.120(3)(B)3.)

- 4) If the Director determines a change in the work practice manual is necessary, the Director will notify the permittee of that installation. The permittee shall revise the manual to reflect these changes and submit the revised manual within 30 days of receipt of notification. These changes shall become effective following written approval of the revised manual by the Director. (10 CSR 10-6.120(3)(B)4.)
- 5) Reports of any deviations from monitoring, recordkeeping and reporting requirements of this permit condition shall be submitted semi-annually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.

<b>EU0180</b>			
Silver Dross Process			
General Description:	Two Silver Dross Kettles, 8 ton capacity, 0.84 ton/hr, 2000	EQ Ref. #	Emissions
Manufacturer/Model #:	North American, 4442-4	(2003)	B/H CD66 EP066

**Permit Condition EU0180-001**  
**10 CSR 10-6.060**  
**Construction Permit Required – Construction Permit No. 102000-028**

**Emission Limitation:**

- 1) The permittee shall emit into the atmosphere from the silver dross process less than 0.6 tons of lead in any 12 consecutive month period.

**Equipment and Operation Limitation:**

- 1) Condition 1. The permittee shall control emissions from the silver dross process with a baghouse. The baghouse shall be equipped with instruments to monitor the operating pressure drop across the baghouse.

**Monitoring:**

- 1) The permittee shall determine the monthly and the 12 consecutive month total of lead emissions.
- 2) The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Recordkeeping:**

- 1) The permittee shall use Attachment K or an equivalent form to record the monthly and 12 consecutive month total of lead emissions.
- 2) The records shall be maintained on-site for five years and be made available for inspection to the Missouri Department of Natural Resources' upon request.

**Reporting:**

- 1) The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of the regulation.

<b>EU0190</b>			
Silver Dross Upgrading Process			
General Description: Induction Furnace, 0.189 tons/hr, 1998		EIQ Ref. # (2003)	Emissions
Manufacturer/Model #: InductoTherm, VIP Power Trak, Fischer, MNP 600			
Induction Furnace	Two Hoppers	EU063	B/H, CD63 EP063
Two Kettles	Bench Caster		

**Permit Condition EU0190-001**  
**10 CSR 10-6.060**  
**Construction Permit Required – Project No. 2001-01-048**

**Emission Limitation:**

- 1) Condition 1. The permittee shall emit into the atmosphere from EU0190 less than 0.6 tons of lead in any 12-consecutive months.

**Monitoring:**

- 1) Condition 2. The permittee shall maintain the monthly and the 12 consecutive month totals of lead emissions from EU0190.
- 2) Condition 4. The Teflon membrane fabric filter baghouse must be in use at all times when the associated equipment is in operation.
- 3) The permittee shall comply with the requirements of Attachment F, the Baghouse SOP.

**Performance Testing:**

- 1) Condition 5. The permittee shall conduct performance testing to demonstrate compliance with Condition 1. This includes the emission rates, the capture and the removal efficiencies of the baghouse.

**Record keeping:**

- 1) Condition 2. The permittee shall use Attachment L or an equivalent form to demonstrate compliance with Condition 1. The monthly lead emissions shall be the sum calculated from the silver dross upgrading operations. The records shall be maintained on-site for five years and be made available for inspection to the Missouri Department of Natural Resources’ upon request.

**Reporting:**

- 1) Condition No. 3. The permittee shall report to the ACP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which monthly Lead Tracking Records (Condition No. 2.) indicate that the permittee has exceeded the limitation of Condition No. 1., or any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of the regulation.

<b>EU0200</b>		
Existing Pipeline Natural Gas Fired Indirect Heating Sources		
General Description:	MMBtu/hr	EIQ Reference # (2003):
12 Refining Kettle burners, 1967	60.48 MMBtu/hr total	EP029 - 038
2 Dross Kettle burners, 1965	10.08 MMBtu/hr total	EP039 – 040
Office Boiler	2.84 MMBtu/hr	EP046

**Permit Condition EU0200-001**  
**10 CSR 10-5.030**

**Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating**

**Emission Limitation:**

- 1) The permittee shall not emit particulate matter in excess of 0.36 pounds per million BTU of heat input from any of the listed existing indirect heating sources.
- 2) The permittee shall only burn pipeline natural gas fuel in any of the listed existing indirect heating sources.

**Monitoring/Record Keeping/Reporting:**

- 1) The permittee shall maintain a copy of the Statement of Basis on-site to demonstrate that none of the existing indirect heating emission units are emitting particulate matter in excess of 0.36 lbs/MMBtu.
- 2) The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

<b>EU0210</b>		
<b>New Pipeline Natural Gas Fired Indirect Heating Sources</b>		
<b>General Description:</b>	<b>MMBtu/hr</b>	<b>EIQ Reference # (2003):</b>
2 Strip Mill Kettle burners, 1979	10.08 MMBtu/hr total	EP041 – 042
2 Change House Boilers, 1981	10.92 MMBtu/hr total	EP047 – 048
Low Alpha Smelting System, 1998	2.94 MMBtu/hr	EP063
Acid Plant Preheater, 1998	5.88 MMBtu/hr	EP064
Silver Dross Liquefaction Kettles, 2000	3.36 MMBtu/hr	EP066

**Permit Condition EU0210-001**  
**10 CSR 10-5.030**

**Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating**

**Emission Limitation:**

- 1) The permittee shall not emit particulate matter in excess of 0.20 pounds per million BTU of heat input from any of the listed new indirect heating sources.
- 2) The permittee shall only burn pipeline natural gas fuel in any of the listed new indirect heating sources.

**Monitoring/Record Keeping/Reporting:**

- 1) The permittee shall maintain a copy of the Statement of Basis on-site to demonstrate that none of the new indirect heating emission units are emitting particulate matter in excess of 0.20 lbs/MMBtu.
- 2) The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

<b>EU0220</b> Zep Solvent Cold Cleaners	
General Description:	Four cold cleaning units
Manufacturer/Model #:	Zep DYNA 143, Light Aliphatic Naphtha, Vapor Pressure 0.5 mmHg at 20 °C
EIQ Reference # (2003):	

<b>Permit Condition EU0220-001</b> <b>10 CSR 10-5.300</b> <b>Control of Emissions from Solvent Metal Cleaning</b>
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**Emission Limitation:**

- 1) After April 1, 2001, no owner or operator shall operate a cold cleaner using a solvent with a vapor pressure greater than 1.0 mm Hg at 20 degrees Celsius.
- 2) Exception: The permittee may use an alternative method for reducing cold cleaning emissions if the level of emission control is equivalent to or greater than the requirements listed above. The director must approve the alternative method.

**Equipment and Operation Parameters:**

- 1) Each cold cleaner shall have a cover which will prevent the escape of solvent vapors from the solvent bath while in the closed position, or the cold cleaner shall have an enclosed reservoir which limits the escape of solvent vapors from the solvent bath whenever parts are not being processed in the cleaner.
- 2) When one or more of the following conditions exist, the design of the cover shall be such that it can be easily operated with one hand and without disturbing the solvent vapors in the tank (For covers larger than ten square feet, this shall be accomplished by either mechanical assistance such as spring loading or counter weighing or by power systems):
  - a) The solvent volatility is greater than 0.3 psi measured at 37.8 Celsius (37.8 °C) (100 degrees Fahrenheit (100 °F)), such as in mineral spirits.
  - b) The solvent is agitated; or
  - c) The solvent is heated.
- 3) Each cold cleaner shall have a drainage facility that will be internal so that parts are enclosed under the cover while draining.
- 4) If an internal drainage facility cannot fit into the cleaning system and the solvent vapor pressure is less than 0.6 psi measured at 37.8 °C (100 °F), then the cold cleaner shall have an external drainage facility which provides for the solvent to drain back into the solvent bath.
- 5) Solvent sprays, if used, shall be a solid fluid stream (not fine, atomized, or shower type spray) and at a pressure which does not cause splashing above or beyond the freeboard.
- 6) A permanent conspicuous label summarizing the operating procedures shall be affixed to the equipment.
- 7) Any cold cleaner which uses a solvent volatility greater than 0.6 psi measured at 37.8 °C (100°F) or heated above 48.9 °C (120°F) must use one of the following control devices:
  - a) A freeboard ratio of at least 0.75;
  - b) Water cover (solvent must be insoluble in and heavier than water); or
  - c) Other control systems with a mass balance demonstrated overall VOC emissions reduction efficiency greater than or equal to 65 percent (65%). These control systems must receive approval from the director prior to their use.
- 8) Each cold cleaner shall be operated as follows:
  - a) Cold cleaner covers shall be closed whenever parts are not being handled in the cleaners or the solvent must drain into an enclosed reservoir.

- b) Clean parts shall be drained in the freeboard area for at least 15 seconds or until dripping ceases, whichever is longer.
  - c) Whenever a cold cleaner fails to perform within the operating parameters established for it by this regulation, the unit shall be shut down immediately and shall remain shut down until trained service personnel are able to restore operation within the established parameters.
  - d) Solvent leaks shall be repaired immediately or the degreaser shall be shut down until the leaks are repaired.
  - e) Any waste material removed from a cold cleaner shall be disposed of by one of the following methods and in accordance with the Missouri Hazardous Waste Management Commission rules codified at 10 CSR 10-25, as applicable:
    - i) Reduction of the waste material to less than 20 percent (20%) VOC solvent by distillation and proper disposal of the still bottom waste, or
    - ii) Stored in closed containers for transfer to a contract reclamation service or a disposal facility approved by the director.
    - iii) Waste solvent shall be stored in covered containers only.
- 9) Operators must be trained as follows:
- a) Only persons trained in at least the operational and equipment requirements specified in this regulation for their particular solvent metal cleaning process shall be permitted to operate the equipment,
  - b) The supervisor of any person who operates a solvent metal cleaning process shall receive equal or greater operational training than the operator,
  - c) Refresher training shall be given to all solvent metal cleaning equipment operators at least once each 12 month period.

**Monitoring:**

- 1) The permittee shall monitor the throughputs of the solvents monthly and maintain material safety data sheets of the cleanup solvents used at the installation.

**Record Keeping:**

- 1) The permittee shall maintain the following records for each purchase of cold cleaner solvent. (see Attachment M):
  - a) The name and address of the solvent supplier;
  - b) The date of purchase;
  - c) The type of solvent; and
  - d) The vapor pressure of the solvent in mm Hg at 20°C (68°F).
- 2) The permittee shall keep monthly inventory records of solvent types and amounts purchased and solvent consumed. The records shall include all types and amounts of solvent containing waste material transferred to either a contract reclamation service or to a disposal installation and all amounts distilled on the premises (see Attachment N). The record also shall include logs of the maintenance and repairs to the cold cleaners. (see Attachment O).
- 3) Records shall be maintained of all solvent metal cleaning training for each employee on an annual basis (see Attachment P).
- 4) All records shall be maintained for five years.

**Reporting:**

Reports of any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation shall be submitted semi-annually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.

### III) Core Permit Requirements

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements.

#### **10 CSR 10-6.050, Start-up, Shutdown and Malfunction Conditions**

- 1) In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the director within two business days in writing the following information:
  - a) Name and location of installation;
  - b) Name and telephone number of person responsible for the installation;
  - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
  - d) Identity of the equipment causing the excess emissions;
  - e) Time and duration of the period of excess emissions;
  - f) Cause of the excess emissions;
  - g) Air pollutants involved;
  - h) Best estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
  - i) Measures taken to mitigate the extent and duration of the excess emissions; and
  - j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
- 2) The permittee shall submit the paragraph (a.) information list to the director in writing at least ten days prior to any maintenance, start-up or shutdown, which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, it shall be given as soon as practicable prior to the release. If an unplanned excess release of emissions exceeding one hour occurs during maintenance, start-up or shutdown, the director shall be notified verbally as soon as practical during normal working hours and no later than the close of business of the following working day. A written notice shall follow within ten working days.
- 3) Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph (a.) list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under section 643.080 or 643.151, RSMo.
- 4) Nothing in this rule shall be construed to limit the authority of the director or commission to take appropriate action, under sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
- 5) Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

#### **10 CSR 10-6.060, Construction Permits Required**

- 1) The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin

operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

**10 CSR 10-6.065, Operating Permits**

- 1) The permittee shall file for renewal of this operating permit no sooner than eighteen months, nor later than six months, prior to the expiration date of this operating permit. The permittee shall retain the most current operating permit issued to this installation on-site and shall immediately make such permit available to any Missouri Department of Natural Resources personnel upon request.

**10 CSR 10-6.110, Submission of Emission Data, Emission Fees and Process Information**

- 1) The permittee shall complete and submit an Emission Inventory Questionnaire (EIQ) in accordance with the requirements outlined in this rule.
- 2) The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079 to satisfy the requirements of the Federal Clean Air Act, Title V.
- 3) The fees shall be due April 1 each year for emissions produced during the previous calendar year. The fees shall be payable to the Department of Natural Resources and shall be accompanied by the Emissions Inventory Questionnaire (EIQ) form or equivalent approved by the director.

**10 CSR 10-6.130, Controlling Emissions During Episodes of High Air Pollution Potential**

- 1) This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

**10 CSR 10-6.150, Circumvention**

- 1) The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

**10 CSR 10-6.180, Measurement of Emissions of Air Contaminants**

- 1) The director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The director may specify testing methods to be used in accordance with good professional practice. The director may observe the testing. Qualified personnel shall perform all tests.
- 2) The director may conduct tests of emissions of air contaminants from any source. Upon request of the director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
- 3) The director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

**10 CSR 10-5.040, Use of Fuel in Hand-Fired Equipment Prohibited**

- 1) It shall be unlawful to operate any hand-fired fuel-burning equipment in the St. Louis, Missouri metropolitan area. This regulation shall apply to all fuel-burning equipment including, but not limited to, furnaces, heating and cooking stoves and hot water furnaces. It shall not apply to wood-burning fireplaces and wood-burning stoves in dwellings, or to fires used for recreational purpose, or to fires used solely for

the preparation of food by barbecuing. Hand-fired fuel-burning equipment is any stove, furnace, or other fuel-burning device in which fuel is manually introduced directly into the combustion chamber.

**10 CSR 10-5.060, Refuse Not to be Burned in Fuel Burning Installations (Contained in State Implementation Plan)**

- 1) No person shall burn or cause or permit the burning of refuse in any installation, which is designed for the primary purpose of burning fuel.

**10 CSR 10-5.120, Information on Sales of Fuels to be Provided and Maintained**

- 1) Every delivery of coal or residual fuel oil when first delivered to a consumer or wholesaler in the St. Louis metropolitan area must be accompanied by a ticket prepared in triplicate and containing at least the name and address of the seller and the buyer; the grade of fuel; ash content of coal, the source of the fuel, which must be an approved source, and such other information as the Air Conservation Commission may require. One copy of each ticket shall be kept by the person delivering the fuel and be retained for one year; one copy is to be given to the recipient of the fuel to be retained for one year; and, upon request, within 30 days after delivery of the fuel, the delivering party shall mail one copy to the Air Conservation Commission.

**10 CSR 10-5.070, Open Burning Restrictions**

- 1) The permittee shall not conduct, cause, permit or allow a salvage operation, the disposal of trade wastes or burning of refuse by open burning.
- 2) Exception - Open burning of trade waste or vegetation may be permitted only when it can be shown that open burning is the only feasible method of disposal or an emergency exists which requires open burning.
- 3) Any person intending to engage in open burning shall file a request to do so with the director. The request shall include the following:
  - a) The name, address and telephone number of the person submitting the application; The type of business or activity involved; A description of the proposed equipment and operating practices, the type, quantity and composition of trade wastes and expected composition and amount of air contaminants to be released to the atmosphere where known;
  - b) The schedule of burning operations;
  - c) The exact location where open burning will be used to dispose of the trade wastes;
  - d) Reasons why no method other than open burning is feasible; and
  - e) Evidence that the proposed open burning has been approved by the fire control authority which has jurisdiction.
- 4) Upon approval of the open burning permit application by the director, the person may proceed with the operation under the terms of the open burning permit. Be aware that such approval shall not exempt The Doe Run Company from the provisions of any other law, ordinance or regulation.
- 5) The permittee shall maintain files with letters from the director approving the open burning operation and previous DNR inspection reports.

**10 CSR 10-5.160, Control of Odors in the Ambient Air**

- 1) No person shall emit odorous matter as to cause an objectionable odor on or adjacent to:
  - (a.) Residential, recreational, institutional, retail sales, hotel or educational premises.  
Industrial premises when air containing odorous matter is diluted with 20 or more volumes of odor-free air; or
  - (b.) Premises other than those in paragraphs (1)A.1. and (2) of the rule when air containing odorous matter is diluted with four or more volumes of odor-free air.

- 2) The previously mentioned requirement shall apply only to objectionable odors. An odor will be deemed objectionable when 30% or more of a sample of the people exposed to it believe it to be objectionable in usual places of occupancy; the sample size to be at least 20 people or 75% of those exposed if fewer than 20 people are exposed.

**This requirement is not federally enforceable.**

**10 CSR 10-5.240, Additional Air Quality Control Measures May be Required When Sources Are Clustered in a Small Land Area**

The Air Conservation Commission may prescribe more restrictive air quality control requirements that are more restrictive and more extensive than provided in regulations of general application for:

- 1) Areas in which there are one or more existing sources and/or proposed new sources of particulate matter in any circular area with a diameter of two miles (including sources outside metropolitan area) from which the sum of particulate emissions allowed from these sources by regulations of general application are or would be greater than 2000 tons per year or 500 pounds per hour.
- 2) Areas in which there are one or more existing sources and/or proposed new sources of sulfur dioxide in any circular area with a diameter of two miles from which the sum of sulfur dioxide emissions from these sources allowed by regulations of general application are or would be greater than 1000 tons for any consecutive three months or 1000 pounds per hour.

**10 CSR 10-5.250, Time Schedule for Compliance**

- 1) Except as otherwise specified, all new installations shall comply with the provisions of this regulation as of going into operation.

**10 CSR 10-6.100, Alternate Emission Limits**

- 1) Proposals for alternate emission limitations shall be submitted on Alternate Emission Limits Permit forms provided by the department. An installation owner or operator must obtain an Alternate Emission Limits Permit in accordance with 10 CSR 10-6.100 before alternate emission limits may become effective.

**10 CSR 10-6.080, Emission Standards for Hazardous Air Pollutants**

**40 CFR Part 61 Subpart M, National Emission Standard for Asbestos**

- 1) The permittee shall follow the procedures and requirements of 40 CFR Part 61, Subpart M for any activities occurring at this installation which would be subject to provisions for 40 CFR Part 61, Subpart M, National Emission Standard for Asbestos.
- 2) The permittee shall conduct monitoring to demonstrate compliance with registration, certification, notification, and Abatement Procedures and Practices standards as specified in 40 CFR Part 61, Subpart M.

**10 CSR 10-6.250, Asbestos Abatement Projects – Certification, Accreditation, and Business Exemption Requirements**

- 1) The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250. This rule requires individuals who work in asbestos abatement projects to be certified by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires persons who hold exemption status from certain requirements of this rule to allow the department to monitor training provided to employees. Each individual who works in asbestos abatement projects must first obtain certification for the appropriate occupation from the department. Each person who offers training for asbestos abatement occupations must first obtain accreditation from the department. Certain

business entities that meet the requirements for state-approved exemption status must allow the department to monitor training classes provided to employees who perform asbestos abatement.

**Title VI – 40 CFR Part 82, Protection of Stratospheric Ozone**

- 1) The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
  - a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
  - b) The placement of the required warning statement must comply with the requirements pursuant to §82.108.
  - c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
  - d) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
- 2) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
  - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
  - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
  - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
  - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. (“MVAC-like” appliance as defined at §82.152).
  - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
  - f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- 3) If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
- 4) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air conditioners. The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR part 82*

**10 CSR 10-6.280, Compliance Monitoring Usage**

- 1) The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:

- a) Monitoring methods outlined in 40 CFR Part 64;
  - b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, “*Operating Permits*”, and incorporated into an operating permit; and
  - c) Any other monitoring methods approved by the director.
- 2) Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred by a permittee:
- a) Monitoring methods outlined in 40 CFR Part 64;
  - b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, “*Operating Permits*”, and incorporated into an operating permit; and
  - c) Compliance test methods specified in the rule cited as the authority for the emission limitations.
- 3) The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:  
Applicable monitoring or testing methods, cited in:
- a) 10 CSR 10-6.030, “*Sampling Methods for Air Pollution Sources*”;
  - b) 10 CSR 10-6.040, “*Reference Methods*”;
  - c) 10 CSR 10-6.070, “*New Source Performance Standards*”;
  - d) 10 CSR 10-6.080, “*Emission Standards for Hazardous Air Pollutants*”; or
- Other testing, monitoring, or information gathering methods, if approved by the director, that produce information comparable to that produced by any method listed above.

## IV) General Permit Requirements

### Permit Duration

10 CSR 10-6.065(6)(C)1.B.

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed.

### General Record Keeping and Reporting Requirements

10 CSR 10-6.065(6)(C)1.C

- 1) Record Keeping
  - a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
  - b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources' personnel upon request.
- 2) Reporting
  - c) The permittee shall submit a report of all required monitoring by:
    - i) October 1<sup>st</sup> for monitoring which covers the January through June time period, and
    - ii) April 1<sup>st</sup> for monitoring which covers the July through December time period.
    - iii) Exception: Monitoring requirements which require reporting more frequently than semi annually shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
  - d) Each report must identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
  - e) All reports shall be submitted to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102.
  - f) Submit supplemental reports as required or as needed. Supplemental reports are required no later than ten days after any exceedance of any applicable rule, regulation or other restriction. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
    - i) Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (6)(C)7. of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if you wish to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and that you can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.
    - ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.
    - iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semiannual report shall be reported on the schedule specified in the permit.

- iv) These supplemental reports shall be submitted to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.
- g) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.
- h) The permittee may request confidential treatment of information submitted in any report of deviation.

### **Risk Management Plans Under Section 112(r)**

10 CSR 10-6.065(6)(C)1.D.

The permittee shall comply with the requirements of 40 CFR Part 68, Accidental Release Prevention Requirements. If the permittee has more than a threshold quantity of a regulated substance in process, as determined by 40 CFR Section 68.115, the permittee shall submit a Risk Management Plan in accordance with 40 CFR Part 68 no later than the latest of the following dates:

- 1) June 21, 1999;
- 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or
- 3) The date on which a regulated substance is first present above a threshold quantity in a process.

### **Severability Clause**

10 CSR 10-6.065(6)(C)1.F.

- 1) In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

### **General Requirements**

10 CSR 10-6.065(6)1.G

- 1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
- 2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- 3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and re-issuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, will not stay any permit condition.
- 4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
- 5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control

Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(C)1.

### **Incentive Programs Not Requiring Permit Revisions**

10 CSR 10-6.065(6)(C)1.H.

- 1) No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

### **Reasonably Anticipated Operating Scenarios**

10 CSR 10-6.065(6)(C)1.I.

- 1) EU0150, the barge unloading hopper and conveyor, and EU0160, the materials handling building were permitted under Construction Permit No.1099-004 for barge unloading of lead concentrate. Construction Permit No. 092001-012 was issued for the same equipment to be used for the unloading of coke barges.

### **Emissions Trading**

10 CSR 10-6.065(6)(C)1.J.

None.

### **Compliance Requirements**

10 CSR 10-6.065(6)(C)3.

- 1) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
- 2) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
  - a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
  - b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
  - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
- 3) All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
  - a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
  - b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.

- 4) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1<sup>st</sup>, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to EPA Region VII, 901 North 5<sup>th</sup> Street, Kansas City, Kansas 66101, as well as the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and excursions must be included in the compliance certifications. The compliance certification shall include the following:
- The identification of each term or condition of the permit that is the basis of the certification,
  - The current compliance status, as shown by monitoring data and other information reasonably available to the installation,
  - Whether compliance was continuous or intermittent,
  - The method(s) used for determining the compliance status of the installation, both currently and over the reporting period, and
  - Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

#### **Permit Shield**

10 CSR 10-6.065(6)(C)6.

- Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
  - The applicable requirements are included and specifically identified in this permit; or
  - The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
- Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
  - The provisions of section 303 of the Act or section 643.090, RSMo concerning emergency orders,
  - Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
  - The applicable requirements of the acid rain program,
  - The administrator's authority to obtain information, or
  - Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

#### **Emergency Provisions**

10 CSR 10-6.065(6)(C)7.

- An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7., shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
  - That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
  - That the installation was being operated properly,
  - That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and

- d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- 2) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

### **Operational Flexibility**

#### 10 CSR 10-6.065(6)(C)8.

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program and the Administrator at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that established an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

- 1) Section 502(b)(10) changes. Changes that, under section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), record keeping, reporting or compliance requirements of the permit.
  - a) Before making a change under this provision, The permittee shall provide advance written notice to the Air Pollution Control Program and to the Administrator, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and this agency shall place a copy with the permit in the public file. Written notice shall be provided to the administrator and this agency at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, The permittee shall provide notice to the administrator and the permitting authority as soon as possible after learning of the need to make the change.
  - b) The permit shield shall not apply to these changes.

### **Off-Permit Changes**

#### 10 CSR 10-6.065(6)(C)9.

- 1) Except as noted below, The permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the application, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
  - a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; The permittee may not change a permitted installation without a permit revision, if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
  - b) The permittee must provide written notice of the change to the permitting authority and to the administrator no later than the next annual emissions report. This notice shall not be required for changes that are insignificant activities under paragraph (6)(B)3. of this rule. This written notice shall

describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.

- c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and
- d) The permit shield shall not apply to these changes.

### **Responsible Official**

10 CSR 10-6.020(2)(R)12.

- 1) The application utilized in the preparation of this permit was signed by Clifton Gray, General Manager Mr. Gary Hughes is now the responsible official. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

### **Reopening Permit For Cause**

10 CSR 10-6.065(6)(E)6.

In accordance with 10 CSR 10-6.065(6)(E)6.A., this permit may be reopened with cause if:

- 1) The Missouri Department of Natural Resources (MDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
- 2) MDNR or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
- 3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
- 4) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or
- 5) MDNR or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

### **Statement of Basis**

10 CSR 10-6.065(6)(E)1.C.

This permit is accompanied by a statement setting forth the legal and factual basis for the draft permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.





**Attachment A-3**

<b>Method 9 Opacity Emissions Observations</b>	
Company	Observer
Location	Observer Certification Date
Date	Emission Unit
Time	Control Device

Hour	Minute	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0							
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
	18							

<b>SUMMARY OF AVERAGE OPACITY</b>				
Set Number	Time		Opacity	
	Start	End	Sum	Average

Readings ranged from \_\_\_\_\_ to \_\_\_\_\_ % opacity.

Was the emission unit in compliance at the time of evaluation? \_\_\_\_\_  
 Yes    No    Signature of Observer









## **Attachment F**

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### **BAGHOUSE SOP PLAN**

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### BAGHOUSE SOP PLAN

#### INTRODUCTION

This plan is submitted in accordance with the primary smelter MACT standard provisions, specifically 40 CFR 63.1547, which requires the preparation and use of a standard operating procedures manual for all baghouses used to control process, process fugitive, or fugitive dust emission sources.

The applicable processes, which are ventilated through this system, are as follows:

**#3 BAGHOUSE:** The baghouse system is a negative-pressure unit designed at 300,000 acfm with individual compartments each containing 384 bags. This baghouse ventilates the Sinter Plant including industrial hygiene ventilation points. The system is maintained by a 2-man crew with additional support from maintenance personnel and electricians when needed.

**#5 BAGHOUSE:** The baghouse system is a negative-pressure unit designed at 500,000 acfm with individual compartments each containing 384 bags. This baghouse ventilates the Blast Furnace and industrial hygiene ventilation points. The system is maintained by a 2-man crew with additional support from maintenance personnel and electricians when needed.

**DROSS FURNACE BAGHOUSE #6:** The baghouse system is a negative-pressure unit designed at 80,000 acfm with 208 bags. Present ventilation lines include the Dross Plant kettles and the area directly above the charging area. The system is maintained by a 2-man crew with additional support from maintenance personnel and electricians when needed.

**COOLER BAGHOUSE:** The baghouse system is a negative-pressure unit designed at 110,000 acfm with individual compartments each containing 972 bags. Ventilation lines feed the system which include the carrier cooler and other belt transfer points. The system is maintained by a 4-man crew with additional support from maintenance personnel and electricians when needed.

**CRUSHER BAGHOUSE:** The baghouse system is a negative-pressure unit designed at 30,000 acfm with 660 bags. Ventilation trunk lines feed the system which includes the Sinter Plant crushing circuit and industrial hygiene ventilation points. The system is maintained by a 4-man crew with additional support from maintenance personnel and electricians when needed.

**MIXING DRUM BAGHOUSE:** The baghouse system is a negative-pressure unit designed at 20,000 acfm with 196 bags. The ventilation lines system includes the Sinter Plant Mixing Drum and industrial hygiene ventilation points. The system is maintained by a 2-man crew with additional support from maintenance personnel and electricians when needed.

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## Attachment F

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### BAGHOUSE SOP PLAN

**CAGE PAKTOR BAGHOUSE (South End Baghouse):** The baghouse system is a negative-pressure unit designed at 32,000 acfm with 364 bags. Ventilation trunk lines feed the system which include the Sinter Plant belt transfer points. The system is maintained by a 4-man crew with additional support from maintenance personnel and electricians when needed.

**76’’ ROLLS BAGHOUSE:** The baghouse system is a negative-pressure unit designed at 15,000 acfm with 320 bags. Ventilation trunk lines feed the system which include the Sinter Plant 76’’ smooth rolls crusher and the remaining processes including industrial hygiene ventilation points. The system is maintained by a 4-man crew with additional support from maintenance personnel and electricians when needed.

**CV-22 BAGHOUSE:** The baghouse system is a negative-pressure unit designed at 3,140 acfm with 64 bags. Ventilation trunk lines feed the system, which include the Sinter Plant CV-22 transfer point and the remaining processes including industrial hygiene ventilation points. The system is maintained by a 2-man crew with additional support from maintenance personnel and electricians when needed.

**BIN VENT #1 BAGHOUSE:** The baghouse system is a negative-pressure unit designed at 2,000 acfm with 64 bags. Two major ventilation trunk lines feed the system, which include the #10 bin and transfer point to CV-21. The system is maintained by a 2-man crew with additional support from maintenance personnel and electricians when needed.

**STRIP MILL BAGHOUSE:** The baghouse system is a negative-pressure unit designed at 5,000 acfm with 216 bags. Ventilation trunk lines feed the system, which include the Strip Mill north end including industrial hygiene ventilation points. The system is maintained by a 2-man crew with additional support from maintenance personnel and electricians when needed.

**SILVER DROSS REFINING BAGHOUSE:** The baghouse system is a negative-pressure unit designed at 2,000 acfm with 36 bags. Ventilation trunk lines feed the system, which include the refining kettles including industrial hygiene ventilation points. The system is maintained by a baghouse crew with additional support from maintenance personnel and electricians when needed.

**REFINERY BUILDING BAGHOUSE #9:** The baghouse system is a negative-pressure unit designed at 250,000 acfm. Ventilation trunk lines feed the system, which include the roof of the refinery. The system is maintained by a baghouse crew with additional support from maintenance personnel and electricians when needed.

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### BAGHOUSE SOP PLAN

**BLAST FURNACE & DROSS PLANT BUILDING VENTILATION BAGHOUSE #7:** The baghouse system is a negative-pressure unit designed at 300,000 acfm. Three major ventilation trunk lines feed the system, which include the Dross Plant, Blast Furnace and the remaining processes including industrial hygiene ventilation points. The system is maintained by a baghouse crew with additional support from maintenance personnel and electricians when needed.

**REFINERY KETTLE & CV10 VENT BAGHOUSE #8:** The baghouse system is a negative-pressure unit designed at 80,000 acfm. Two major ventilation trunk lines feed the system, which include the Refinery kettles and the CV-10 area and the remaining processes including industrial hygiene ventilation points. The system is maintained by a baghouse crew with additional support from maintenance personnel and electricians when needed.

**BARGE UNLOADING HOPPER BAGHOUSE:** The baghouse system is a negative-pressure unit with a design rate of 7,200 acfm. The baghouse ventilates the loading of the receiving hopper from the excavator bucket. The system is maintained by a baghouse crew with additional support from maintenance personnel and electricians when needed.

**BARGE UNLOADING TRANSFER TO TRUCK BAGHOUSE:** The baghouse system is a negative-pressure unit with a design rate of 4,800 acfm. The baghouse ventilates the conveyor belt discharge into the receiving truck. The system is maintained by a baghouse crew with additional support from maintenance personnel and electricians when needed.

## II. INSPECTION/MAINTENANCE PROCEDURES

Shakers are checked from the outside, primarily inspecting to insure that they are operating properly. Primary areas inspected include bolts, bearings, couplings, and u-belts. Specific provisions for maintenance and inspection under 40 CFR 63.1547(c) include:

- i) Daily monitoring of pressure drop across each baghouse cell.
- ii) Minimum weekly confirmation that dust is being removed from cell hoppers.
- iii) Daily check of compressed air supply for pulse jet baghouses.
- iv) Daily checks of bag cleaning mechanisms are conducted to ensure all bearings, couplings, and bolts are in proper working order on the shaker system. Baghouse pressure drop and bag cleaning system air pressures are monitored daily to ensure all diaphragms, solenoids, air lines and compressors are in working order on the pulse air baghouses.

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## Attachment F

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### BAGHOUSE SOP PLAN

- v) Minimum monthly check of bag cleaning mechanisms for proper functioning.
- vi) Minimum quarterly, conduct visual inspection of shaker-type bags for kinked (kneaded or bent) or laying on their sides.
- vii) Minimum quarterly inspection of the physical integrity of the baghouse through visual inspection of the baghouse interior for air leaks.
- viii) Minimum quarterly inspections of fans for wear, material build-up, and corrosion through visual inspection, vibration detectors, or equivalent method.
- ix) Continuous operation of a bag leak detection system.

Records of inspections conducted will be kept for a period of 5 years.

### III. BAG LEAK DETECTION SYSTEM

Baghouses are equipped with a (Tribo flow) bag leak detection system on the outlet sides of the units. Baghouse #3, #5, and the cooler baghouse are equipped with two probes each to cover the proper area due to ductwork size on #5 baghouse and dual ducts on #3 and the cooler baghouse. Specifications and requirements under 40 CFR 63.1547(e) include:

- i) Bag Leak detection system with a manufacturers certified detectable range capable of  $10\text{mg}/\text{M}^3$  (0.0044 grains per acfm) or less. The Triboguard III Bag Leak detection system being used has been manufacturer independently tested down to  $0.005\text{ mg}/\text{M}^3$ .
- ii) System provides output of relative particulate matter and outputs are continuously recorded.
- iii) The system is equipped with an alarm system such that upon an alarm, at a continuously manned security desk, the appropriate personnel can be immediately contacted.
- iv) Bag leak detection systems that work based on the triboelectric effect shall be installed, calibrated, and maintained in a manner consistent with the guidance provided in the U.S. Environmental Protection Agency guidance document “Fabric Filter Bag Leak Detection Guidance” (EPA-454/R-98-015).
- v) Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and the alarm delay time.

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### BAGHOUSE SOP PLAN

- vi) Following initial adjustment, the owner or operator shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the approved SOP. In the event that a sensitivity must be made, the adjustment will not be increased more than 100% or decreased more than 50% over a 365 day period and only performed after the baghouse has been thoroughly checked and found to be in good operating condition prior to adjustments. If an adjustment is required in a greater range than the 100% increase or decreased more than 50% as noted above, a responsible official must certify the adjustment.
- 7) The bag leak detectors are located down-stream of the baghouse and upstream of any wet acid gas scrubber.

#### IV. CORRECTIVE ACTION PROCEDURES

Any alarms initiated from the bag leak detection system, will be responded to in accordance with section 63.1547, including but not limited to those actions outlined in 63.1547(f)(1) through (6). Once a problem has been corrected, the compartment of concern will be returned back to service. Upon receiving an alarm, an appropriate person will be contacted and information as to which baghouse has the alarm will be relayed to them. The indicated baghouse receiving the alarm will then receive a visible check of the corresponding stack and/or outlet trail(s). If no indications of an actual baghouse problem are found, the Tribo electric probe will then be checked and cleaned of debris and/or moisture to assure that the corresponding alarm is valid. If at any time during the alarm investigation a problem is identified, actions will be taken to minimize emissions, which may include but are not limited to, the following.

- 1) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.
- 2) Sealing off defective bags or filter media.
- 3) Replacing defective bags or filter media, or otherwise repairing the control device.
- 4) Sealing off a defective baghouse compartment.
- 5) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.
- 6) Shutting down the process producing the particulate emissions.

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**BAGHOUSE SOP PLAN**

Attachment i. CONFINED SPACE ENTRY PERMIT

DEPARTMENT: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME \_\_\_\_\_

CONFINED SPACE IDENTIFICATION: \_\_\_\_\_

DESCRIPTION OF WORK OR JOBS TO BE PERFORMED:

\_\_\_\_\_  
\_\_\_\_\_

(Use reverse side if needed)

LIST EMPLOYEES and/or CONTRACTORS ENTERING CONFINED SPACE:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Use reverse side if needed)

(CHECK IF COMPLETED)

- \_\_\_\_\_ CONFINED SPACE SAFETY DATA SHEET REVIEWED
- \_\_\_\_\_ PRE-ENTRY TESTING COMPLETE
- \_\_\_\_\_ EQUIPMENT ISOLATION REQUIREMENTS MET
- \_\_\_\_\_ PURGING & VENTILATION REQUIREMENTS MET
- \_\_\_\_\_ PHYSICAL HAZARDS PROTECTION REQUIREMENTS MET
- \_\_\_\_\_ STAND-BY PERSONAL ASSIGNED
- \_\_\_\_\_ EMERGENCY RESCUE EQUIPMENT CHECKED & AVAILABLE
- \_\_\_\_\_ OTHER PRECAUTIONS BEING TAKEN: \_\_\_\_\_

GROUP LEADER OR PERSON RESPONSIBLE FOR WORKERS ENTERING CONFINED SPACE:

\_\_\_\_\_

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**Attachment F**

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**BAGHOUSE SOP PLAN**

Attachment ii.

**CONFINED SPACE**

**NON-PERMIT REQUIRED FORM**

DEPARTMENT: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME \_\_\_\_\_

NON-PERMIT REQUIRED AREA IDENTIFICATION: \_\_\_\_\_

DESCRIPTION OF WORK OR JOBS TO BE PERFORMED:

\_\_\_\_\_  
\_\_\_\_\_

(Use reverse side if needed)

LIST EMPLOYEES and/or CONTRACTORS ENTERING NON-PERMIT REQUIRED AREA:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Use reverse side if needed)

\_\_\_\_\_ CONTINUED TESTING REQUIRED

GROUP LEADER OR PERSON RESPONSIBLE FOR WORKERS ENTERING NON-PERMIT REQUIRED AREA

\_\_\_\_\_



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**Attachment F**

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**BAGHOUSE SOP PLAN**

Attachment iv. Generic Baghouse Inspection Sheet

Baghouse # \_\_\_\_\_ DATE \_\_\_\_\_

Cell # \_\_\_\_\_ INSPECTED BY \_\_\_\_\_

BAG CONDITION    GOOD    FAIR    FAILING

CELL FLOOR CONDITION    CLEAN    OK    NEEDS VACUUMED

BAG TENSION \_\_\_\_\_

SHAKER PIN GREASE FITTINGS \_\_\_\_\_

SHAKER PINS AND BUSHINGS \_\_\_\_\_

SHAKER DRIVE BELTS \_\_\_\_\_

SHAKER TUBE CONDITION \_\_\_\_\_

SHAKER TUBE ANTI FALL CHAINS \_\_\_\_\_

SHAKER TUBE V BLOCKS \_\_\_\_\_

SHAKER TUBE KNIVES \_\_\_\_\_

OUTLET DAMPERS \_\_\_\_\_

INLET DAMPERS \_\_\_\_\_

REVERSE AIR DAMPERS \_\_\_\_\_

HOPPER SCREW AND BEARINGS \_\_\_\_\_

ROTARY VALVE \_\_\_\_\_

HOPPER DRIVE CHAINS \_\_\_\_\_

CELL DOOR GASKETS \_\_\_\_\_

CELL WALLS \_\_\_\_\_

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Attachment v. DROSS FURNACE BAGHOUSE INSPECTION SHEET

DOE RUN AMEREX BAGHOUSE  
 HOPPER LEVEL

Week Beginning Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

	Transfer Conveyors	Lubrication	Augers	% Build-up in Hoppers	Hopper Condition	% Full Disposal Cont.	Inspected By
M							
T							
W							
T							
F							

Comments: \_\_\_\_\_

TUBESHEET LEVEL

	Inlet/ Outlet Dampers	Pulse Valves & Lines		DP Across Bags Compartment #					Door Seals	Photohelic		Trial Damper Setting	Inspected By
		Header Press	OK/Alert	1	2	3	4	5		High	Low		
M													
T													
W													
T													
F													

Comments: \_\_\_\_\_

OUTSIDE

	Stack	Compressor Drain H <sub>2</sub> O	Fan Condition Vibration	Dryer	Dew Point Setting	Control Board	Inspected By
M							
T							
W							
T							
F							

Comments: \_\_\_\_\_

Work Orders Issued: \_\_\_\_\_

LEGEND: X = Alert    √ = OK & Condition Acceptable

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**BAGHOUSE SOP PLAN**

Attachment vi. STRIP MILL BAGHOUSE INSPECTION SHEET  
(Inspections to be completed 1-3 weeks of month)

Date: \_\_\_\_\_

Operator: \_\_\_\_\_

Laborers: \_\_\_\_\_

	OK	B.O.
Do a Visual Inspection of the Baghouse	Motor/Fan Area: _____	_____
	Shaker Mtr/Arms: _____	_____
	Duct Work (mark comments) _____	_____
Check Bags	Damaged: _____	_____
	Out of Holes: _____	_____
	Down: _____	_____
Grease Shaker Fittings (minimum monthly, check previous paperwork)	Yes _____	No _____
Condition of Cell Plate	Clean _____	Dirty _____

**If dirty, remove appropriate bags and clean cell plate to the hopper**

Empty hopper into barrels. Number of fume barrels filled \_\_\_\_\_

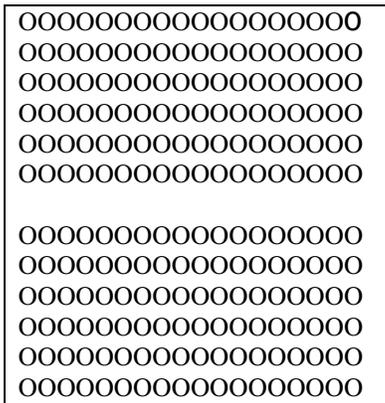
*(Full fume barrels must be sealed and reported to Supervision and/or Service Dept.)*

Person notified \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Mark position of bags  
listed on worksheet  
Copy (fax) to D. Henke  
Copy for file



**Attachment F**

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**BAGHOUSE SOP PLAN**

Attachment viii. **BLAST FURNACE #5 BAGHOUSE DAILY CHECKLIST I**

Date: \_\_\_\_\_

Inlet Temperature: \_\_\_\_\_

No. of Cells In-Line: \_\_\_\_\_

Main Trail Draft: \_\_\_\_\_

Baghouse D.P.: \_\_\_\_\_

Opacity: \_\_\_\_\_

DP Reading: 1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_ 5. \_\_\_\_\_ 6. \_\_\_\_\_ 7. \_\_\_\_\_ 8. \_\_\_\_\_ 9. \_\_\_\_\_

10. \_\_\_\_\_ 11. \_\_\_\_\_ 12. \_\_\_\_\_ 13. \_\_\_\_\_ 14. \_\_\_\_\_ 15. \_\_\_\_\_ 16. \_\_\_\_\_ 17. \_\_\_\_\_

No. 1 Fan Amps: \_\_\_\_\_ No. 2 Fan Amps: \_\_\_\_\_

Check peep holes for emissions:  O.K.  Alert

\_\_\_\_\_

Hoppers: \_\_\_\_\_

\_\_\_\_\_

Shakers: \_\_\_\_\_

\_\_\_\_\_

Augers: \_\_\_\_\_

\_\_\_\_\_

Inlet/Outlet damper seal check:  O.K.  Alert

\_\_\_\_\_

Lubrication Alert List: \_\_\_\_\_

\_\_\_\_\_

Fans: \_\_\_\_\_

\_\_\_\_\_

Comments:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Technician Name: \_\_\_\_\_

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**BAGHOUSE SOP PLAN**

Attachment ix. **BLAST FURNACE #5 BAGHOUSE DAILY CHECKLIST II**

Date: \_\_\_\_\_

Inlet Temperature: \_\_\_\_\_

Main Trail Draft: \_\_\_\_\_

No. of Cells In-Line: \_\_\_\_\_

Tribo Guard: \_\_\_\_\_

Baghouse D.P.: \_\_\_\_\_

Opacity: \_\_\_\_\_

DP Reading: 1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_ 5. \_\_\_\_\_ 6. \_\_\_\_\_ 7. \_\_\_\_\_ 8. \_\_\_\_\_ 9. \_\_\_\_\_

10. \_\_\_\_\_ 11. \_\_\_\_\_ 12. \_\_\_\_\_ 13. \_\_\_\_\_ 14. \_\_\_\_\_ 15. \_\_\_\_\_ 16. \_\_\_\_\_ 17. \_\_\_\_\_

No. 1 Fan Amps: \_\_\_\_\_ No. 2 Fan Amps: \_\_\_\_\_

Check peep holes for emissions:  O.K.  Alert Cell floor Level \_\_\_\_\_ Shaker Level \_\_\_\_\_

Hoppers: \_\_\_\_\_

Shakers: \_\_\_\_\_

Augers: \_\_\_\_\_

Reverse Air / Inlet/Outlet damper seal check:  O.K.  Alert

Lubrication Alert List: \_\_\_\_\_

Fans: \_\_\_\_\_ Oil Level \_\_\_\_\_ Water Level \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Technician Name: \_\_\_\_\_

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**BAGHOUSE SOP PLAN**

Attachment x. SINTERING PLANT #3 BAGHOUSE DAILY CHECKLIST

Date: \_\_\_\_\_

No. of Cells In-Line: \_\_\_\_\_

Baghouse D.P.: \_\_\_\_\_

Opacity: \_\_\_\_\_

DP Reading: 1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_ 5. \_\_\_\_\_ 6. \_\_\_\_\_ 7. \_\_\_\_\_ 8. \_\_\_\_\_ 9. \_\_\_\_\_

10. \_\_\_\_\_ 11. \_\_\_\_\_ 12. \_\_\_\_\_

Check peep holes for emissions:  O.K.  Alert Cell floor Level \_\_\_\_\_ Shaker Level \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Hoppers: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Shakers: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Augers: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Inlet/Outlet damper seal check:  O.K.  Alert

\_\_\_\_\_  
\_\_\_\_\_

Lubrication Alert List: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Fans: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Technician Name: \_\_\_\_\_

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**BAGHOUSE SOP PLAN**

Attachment xi. #3 BAGHOUSE FAN INSPECTION SHEET

Date: \_\_\_/\_\_\_/\_\_\_

No. 6 Fan Temperature West Bearing  ___ ___ ___	No. 7 Fan Temperature West Bearing  ___ ___ ___
No. 6 Fan Vibration  ___ ___ ___	No. 7 Fan Vibration  ___ ___ ___
No. 6 Fan Temperature East Bearing  ___ ___ ___	No. 7 Fan Temperature East Bearing  ___ ___ ___
No. 6 Fan Vibration  ___ ___ ___	No. 7 Fan Vibration  ___ ___ ___
No. 6 Fan Amps _____ Sinter Draft _____ Tribo Guard _____	No. 7 Fan Amps _____ Differential Pressure _____ Inlet Temperature _____

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**BAGHOUSE SOP PLAN**

Attachment xii. **GENERIC BAGHOUSE WORK SHEET**

DATE: \_\_\_\_\_ OPERATOR: \_\_\_\_\_

CONTROL PANEL: # of CELLS IN LINE \_\_\_\_\_ DIFF PRESSURE \_\_\_\_\_

INLET DRAFT \_\_\_\_\_

OPACITY \_\_\_\_\_

TRANSFER AND GATHERING CONVEYORS \_\_\_\_\_

ROTARY VALVES: CHECK IN MANUAL POSITION, 2 HOPPERS AT A TIME TO VERIFY THAT THE SHAFT IS TURNING. MAKE CHECKS AS QUICKLY AS POSSIBLE, SO AS NOT TO OVERLOAD THE CONVEYOR SYSTEM.

*NOTE: IF HOPPER SCREW CHAIN IS TURNING AND ROTARY VALVE SHAFT IS NOT, TAKE CELL OUT OF SERVICE UNTIL THE SHEAR PIN CAN BE REPLACED.*

ROTARY VALVE DRIVE CHAINS \_\_\_\_\_

HOPPER SCREWS: CHECK ALL CHAINS AND SPROCKETS \_\_\_\_\_

\_\_\_\_\_

HOPPER SCREW DISCONNECTS IN ON POSITION \_\_\_\_\_

INLET DAMPER POSITION \_\_\_\_\_

PEEPHOLES \_\_\_\_\_

SHAKERS: BELTS AND ARMS \_\_\_\_\_

SHAKER BEARINGS AND PINS \_\_\_\_\_

SHAKER DISCONNECTS IN ON POSITION \_\_\_\_\_

*NOTE: A CELL WITH SHAKER BELTS OFF OR BROKEN PARTS SHOULD BE TAKEN OUT OF LINE UNTIL REPAIRED.*

OUTLET DAMPERS \_\_\_\_\_



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**BAGHOUSE SOP PLAN**

Attachment xiv. GENERIC PULSE BAGHOUSE MONTHLY/ QUARTERLY WORK SHEET

Year & Quarter: \_\_\_\_\_

Baghouse Number/Name: \_\_\_\_\_

Month	Monthly Cell Plate Floor Pressure Readings								Monthly Bag Cleaning Mechanisms Air Lines, Diaphragms, Solenoids
	1	2	3	4	5	6	7	8	

Additional Service Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Month	Door Seals	Inlet Dampers Arms & Pins	Outlet Dampers Arms & Keyways	Hopper Screws & Chain Drives	Tribo. Probe(s) Cleaned

Additional Service Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

QTR 1                      QTR 2                      QTR 3                      QTR 4

**QUARTERLY INSPECTION ITEMS:** CIRCLE ONE: Jan, Feb, Mar    Apr, May, Jun    July, Aug, Sept    Oct, Nov, Dec

**Internal check for kinked, twisted, dropped, or other bag problems:**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Internal Baghouse physical integrity check of walls, hoppers, cages, & cell plate floors:**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Baghouse Fan Inspected for build-up, wear, vibration, cooling fin debris, corrosion, etc.:**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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### BAGHOUSE SOP PLAN

#### Attachment xv. Normal Baghouse Differential Pressure Operating Ranges

#3 baghouse	5' – 10"
#5 baghouse	4" – 14"
#6 baghouse	3" – 10"
#7 baghouse	4" – 14"
#8 baghouse	4" – 10"
#9 baghouse	4" – 14"
Sinter plant south end (a/k/a Cage Packtor) baghouse	4" – 10"
Sinter plant CV – 22/76 Smooth Rolls baghouse	3" – 10"
Sinter plant # 10 Bin Vent baghouse	3" – 6"
Sinter plant Crusher baghouse	4" – 10"
Sinter plant Cooler baghouse	3" – 10"
Sinter plant Mixing Drum baghouse	3" – 10"
Strip Mill baghouse	3" – 10"
Silver refining baghouse	4" – 14"
Barge unloading hopper baghouse	3" – 14"
Barge unloading transfer to truck baghouse	3" – 14"



















## STATEMENT OF BASIS

### Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

- 1) Part 70 Operating Permit Application, received May 12, 1997; revised June 30, 2004
- 2) 2004 Emissions Inventory Questionnaire, received, April 1, 2005
- 3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition.

### Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits

In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

#### 10 CSR 10-6.180, *Measurement of Emissions of Air Contaminants*,

This rule has been included in the operating permit in order to provide citing for the allowance of requests for emissions data results. On past forms issued by the Air Pollution Control Program, including the application for this permit, it was automatically marked as an administrative rule not required to be listed as an applicable requirement. It is no longer judged to be solely administrative and is, therefore, included in the operating permit.

### Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

#### 10 CSR 10-5.180, *Emission of Visible Air Contaminants From Internal Combustion Engines*

This rule was marked as applicable in the operating permit application. However, the rule was rescinded November 30, 2002 and was not placed in the permit.

#### 10 CSR 10-5.220, *Control of Petroleum Liquid Storage, Loading and Transfer*.

This rule is not applicable to the installation as the diesel oil tanks are less than 40,000 gallon capacity and the gasoline storage tank is less than 500 gallon capacity, therefore, it was not placed in the permit.

#### 10 CSR 10-5.443, *Control of Gasoline Reid Vapor Pressure*

This rule was marked as applicable in the operating permit application. However, the rule was rescinded January 30, 2003 and was not placed in the permit.

#### 10 CSR 10-5.455, *Control of Emission from Solvent Cleanup Operations*

This rule is not applicable to cold cleaners or to installations that emit less than 500 pounds of cleaning solvent VOCs per day. Therefore it was not placed in the permit.

10 CSR 10-5.510, *Control of Emissions of Nitrogen Oxides*

This rule is not applicable to the installation, as the potential to emit nitrogen oxides is less than 100 tons per year. Prior to 1999 NOx emissions were based on FIRE emission factors for combusting coke in boilers that indicated NOx emissions of hundreds of tons per year. A 1999 main stack test for NOx showed that the emissions of NOx from the sinter plant and blast furnaces were far less than the 100 ton minimum required for the rule. Therefore, the rule was not placed in the permit.

10 CSR 10-5.520, *Control of Volatile Organic Compound Emissions From Existing Major Sources*

This rule is not applicable because the installation does not have the potential to emit greater than 100 tons per year of volatile organic compounds. Therefore, the rule was not placed in the permit.

10 CSR 10-6.240, *Asbestos Abatement projects-Registration, Notification and performance Requirements*

This rule was marked as applicable in the operating permit application. However, the court has voided the rule and it has not been placed in the permit.

10 CSR 10-6.350, *Emission Limitations and Emissions Trading of Oxides of Nitrogen*

This rule is not applicable to the installation, as it applies to a fossil fuel-fired electric generating unit that serves a generator with a nameplate capacity of greater than 25 megawatts. The installation does not have an electric generating unit, therefore, the rule was not placed in the permit.

40 CFR part 60, subpart H, *Standards of Performance for Sulfuric Acid Plants*

This rule is not applicable to facilities where conversion to sulfuric acid by the contact process is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds. Therefore, the rule was not placed in the permit.

40 CFR part 60, subpart K, *Standards of Performance for Storage Vessels for Petroleum Liquids*

40 CFR part 60, subpart Ka, *Standards of Performance for Storage Vessels for Petroleum Liquids*

40 CFR part 60, subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)*

All of the petroleum liquid storage tanks at the installation are of less capacity than the minimum stated capacity of these rules. Therefore, none of the rules were placed in the permit.

40 CFR part 60, subpart L, *Standards of performance for Secondary Lead Smelters*

This rule is not applicable because the installation is a primary lead smelter engaged in the production of lead metal from sulfide ore concentrates through the use of pyrometallurgical techniques.

40 CFR part 60, Subpart LL, *Standards of Performance for Metallic Mineral Processing Plants*

This rule is not applicable because the installation does not produce metallic concentrates from ore.

### **Construction Permit Revisions**

The following revisions were made to construction permits for this installation:

Permit No. 0386-006. This permit for the installation of an additional roll crusher and baghouse on the discharge end of the sinter plant contained no special conditions except that 40 CFR part 40, subpart R was applicable. Therefore, there was no need to assign the construction permit a permit condition in the operating permit. The specific conditions are covered under EU0080

Permit No. 1098-018. This permit did not apply 40 CFR part 60, subpart R to the low alpha process, which by definition in subpart R, is a converter. The process was tested for lead emissions in 1999, but has not been operated as a “converter” since. The permittee received permission in 2001, under project 2001-01-048, to use the equipment identified in EU0190 to up-grade silver dross. The 12-consecutive month total lead emissions limit of less than 0.6 tons of lead is still applicable. If the permittee wants to operate the equipment as a “converter” again, they must re-apply for a new construction permit with Subpart R conditions.

Permit No. 1198-004. This permit for the installation of a new pre-heater in the acid plant contained no special conditions. Therefore, there was no need to assign the construction permit a permit condition in the operating permit.

Permit No. 102000-028. This permit incorrectly applied 40 CFR part 60, subpart R to the two liquation kettles (EU0180) as explained in NSPS Applicability.

### **NSPS Applicability**

40 CFR part 60, subpart R, *Standards of Performance for Primary Lead Smelters*

The provisions of this subpart apply to the sintering machine, sinter machine discharge end, blast furnace, dross reverberatory furnace, electric smelting furnace, and converter at primary lead smelters commencing construction or modification after October 16, 1974.

*Sintering machine discharge end* means any apparatus that receives sinter as it is discharged from the conveying grate of a sintering machine.

*Dross reverberatory furnace* means any furnace used for the removal or refining of impurities from lead bullion.

*Electric smelting furnace* means any furnace in which the heat necessary for smelting of the lead sulfide ore concentrate charge is generated by passing an electric current through a portion of the molten mass in the furnace.

*Converter* means any vessel to which lead concentrate or bullion is charged and refined.

The rule is applicable to EU0080, the sinter machine discharge end smooth roll crusher constructed in 1986, which must comply with the particulate matter and opacity conditions of the rule. The SO<sub>2</sub> conditions are not applicable to EU0080, as the solid sinter would emit none or minor amounts of SO<sub>2</sub>.

This rule is not applicable to EU0140, strip mill kettles constructed in 1979, as they are remelting kettles charged with refined lead.

This rule is not applicable to EU0180, two liquation kettles constructed in 2000, as they are charged with silver dross.

This rule is not applicable to EU0190, an induction furnace, two kettles and two hoppers constructed in 1998, as they are used to upgrade silver dross.

### **MACT Applicability**

40 CFR part 63, subpart TTT, *National Emission Standards for Hazardous Air Pollutants for Primary Lead Smelting*

The provisions of this subpart apply to the sinter machine, blast furnace, dross furnace, process fugitive sources, and fugitive dust sources at primary lead smelters.

The Fugitive Dust SOP manual required by §63.1544(a), and the Baghouse SOP manual required by §63.1547(a) were submitted to the APCP prior to November 6, 2000. The manuals were approved and are part of the Doe Run Primary Lead Smelter SIP that was approved by the MACC at the December 2000 meeting.

Compliance with the sinter building in-draft requirement of §63.1547(i) is accomplished by measuring and recording the in-draft at each doorway on a shift basis as stated in §63.1547(i)(1).

Compliance with the requirements of 40 CFR part 63, subpart TTT was completed with a successful stack test on April 27, 2001.

Permit Condition PW003 states, in part, that the lead compound emission rate for each source listed in §63.1543(a)(1) through §63.1543(a)(9) shall be determined. However, as all of the sources (EU0010 through EU0100) discharge to the atmosphere from the mainstack (EP059), one test covers the aggregation of emissions discharged from the control devices.

40 CFR part 63, subpart DDDDD, *National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters*

The small gaseous fuel boilers and process heaters at the installation are not subject to any requirements in 40 CFR part 63, subparts DDDDD or A. (§ 63.7506(c))

### **NESHAP Applicability**

The installation is subject to 40 CFR Part 61, subpart M, *National Emission Standards for Asbestos*

### **CAM Applicability**

#### *40 CFR Part 64, Compliance Assurance Monitoring (CAM)*

The CAM rule applies to each pollutant specific emission unit (PSEU) that meets all of the following:

- 1) Be subject to an emission limitation or standard, and
- 2) Use a control device to achieve compliance, and
- 3) Have pre-control emissions that exceed or are equivalent to the major source threshold.

The requirements of Part 64 shall not apply to PSEU that are subject to the following:

Emission limitations or standards proposed by the EPA after November 15, 1990 pursuant to section 111 or 112 of the Clean Air Act.

CAM Rule § 64.5 Deadlines for submittals.

- 1) *Large pollutant-specific emissions units.* The permittee of a major source shall submit the information required under § 64.4 at the following times:
  - a) On or after April 20, 1998, the permittee shall submit information as part of an application for an initial part 70 or part 71 permit if, by that date, the application either:
    - i) Has not been filed; or
    - ii) Has not yet been determined to be complete by the permitting authority.
- 2) The application for the Doe Run Herculaneum smelter was filed May 12, 1997 and was determined to be complete on November 26, 1997. Therefore, the information required by 40 CFR part 64 is not required until permit renewal or the submittal of a significant permit revision, but then only with respect to those pollutant-specific emissions units for which the proposed permit revision is applicable.

### **Other Regulatory Determinations**

#### *CSR 10-6.120, Restriction of Emissions of Lead From Specific Lead Smelter-Refinery Installations*

- 1) The original rule allowed lead emissions of 446.6 lbs/day from the main stack, and 27.6 lbs/day from three other stacks. After construction of a new main stack, reorganizing the existing dust collectors and installation of the Consent Judgement projects required as SIP control measures, lead emissions were reevaluated as described in the 2000 SIP and the lead inventory of March 30, 2000. Changes to the ventilation and emission collection systems reduced fugitive emissions and increased controlled emissions. This resulted in the change to the lead emission limits of this rule as listed in Permit Condition (EU0010 through EU0160)-001.

#### *CSR 10-6.400, Restriction of Particulate Emissions From Industrial Processes*

- 1) This rule is not applicable to the following emission units because at their maximum hourly design rates they have the potential to emit less than 0.5 pounds per hour of particulate matter; (10 CSR 10-6.400(1)(B)11.) EU0080, EU0140, EU0150 and EU0160 while unloading concentrate, EU0180, EU0190 and EP054 the WWTP lime silo.

### Lead SIP History

Consent Order for St. Joe Lead Company as part of the 1980 SIP for Lead.

On October 5, 1978 the EPA promulgated a NAAQS for lead of 1.5 micrograms per cubic meter averaged over a calendar quarter. In response to this standard, Missouri prepared the 1980 lead SIP that included the area near the Herculaneum smelter. The required emission control projects for Herculaneum were:

Five additional sinter plant ventilation gas scrubbers for six conveyors and transfer points.

Conveyor covers for the six sinter plant conveyors.

- 1) Redesign and install hooding, ducting and exhaust equipment for ventilation of dross kettle D.
- 2) Install a transmissometer and alarm system on each of the three blast furnaces.
- 3) Install a new slag granulation water cooling tower.
- 4) New design and installation of hooding and enclosures at the blast furnace charge make-up and weighing floor with ventilation to two entrances to #5 baghouse trail system.
- 5) Install a transmissometer and alarm system for the #2 and #3 baghouse trail system.
- 6) Concrete paving of 133,000 sq. ft. of yard area.
- 7) Purchase an Ecolotec Vacu-Sweep.
- 8) Pave approximately 285,000 sq. ft. of parking area with asphalt.

Air monitoring continued to show that the area within the city limits of Herculaneum was nonattainment for lead and the SIP was revised in 1993. The revised plan required building air – filtering systems, enclose buildings, and improve material handling. It also required implementation of additional controls if the NAAQS was not met. Since air monitoring showed continued violations of the lead standard the contingency measures of the 1993 SIP were implemented. Page 3 of the 2000 SIP revision lists the many 1993 contingency emission controls implemented.

For ten consecutive calendar quarters after all of the projects were completed, no violations of the NAAQS were recorded in Herculaneum. In the eleventh quarter (first quarter 2005), however, the Broad Street monitor recorded 1.93 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), exceeding the 1.5  $\mu\text{g}/\text{m}^3$  standard. The Broad Street monitor is the monitor that is located closest to the plant and typically records the highest concentrations. Although this was the first violation recorded since the installation of the emission controls required in the 2000 State Implementation Plan, several previous quarters had been very close to the standard. Including first quarter 2005, five of the subsequent eight quarters (63%) have exceeded the standard. The readings are:

Broad Street	1 <sup>st</sup> qtr	2 <sup>nd</sup> qtr	3 <sup>rd</sup> qtr	4 <sup>th</sup> qtr
2005	<b>1.93 <math>\mu\text{g}/\text{m}^3</math></b>	<b>1.61 <math>\mu\text{g}/\text{m}^3</math></b>	<b>1.73 <math>\mu\text{g}/\text{m}^3</math></b>	1.22 $\mu\text{g}/\text{m}^3$
2006	<b>1.82 <math>\mu\text{g}/\text{m}^3</math></b>	1.5 $\mu\text{g}/\text{m}^3$	<b>1.62 <math>\mu\text{g}/\text{m}^3</math></b>	1.3 $\mu\text{g}/\text{m}^3$
2007	<b>1.214 <math>\mu\text{g}/\text{m}^3</math></b>	$\mu\text{g}/\text{m}^3$		

As a result of this ambient violation and subsequent violations, EPA filed a notice in the December 19, 2005 *Federal Register* that found the State Implementation Plan substantially inadequate. EPA responded to comments on the notice and finalized the SIP call on

April 14, 2006. This federal rulemaking required the state to revise the ISP to provide for attainment no later than April 7, 2008, and submit the revised SIP by April 7, 2007. During this same time period, the Main Street monitor had been showing compliance with the standard, with the exception of the 4<sup>th</sup> quarter 2006, which recorded 1.9  $\mu\text{g}/\text{m}^3$ .

**Consent Judgement Projects Required as 2000 SIP Control Measures:**

- 1) Refinery Department Modifications. Completed by July 31, 2001. (§2.A.1.) Notification sent 8/22/01.
  - a) Doe Run installed a permanent total enclosure of the Refinery Building to minimize the escape of uncontrolled air and lead-bearing particles. The roof monitor and the two roof ventilation fans were removed. The Work Practice Manual describes the procedure for keeping the building doors closed, except to allow for entering and exiting the building
  - b) A new ventilation system for kettles 9 through 11 was installed. New baghouse No. 8 with Teflon membrane bags was installed to service the kettle surface ventilation gases of kettles 0 through 3, 9 through 11, and the CV-10 conveyor area. The system was designed with a ventilation rate of 80,000 scfm, and the baghouse gases are routed to a 100-foot stack. The rate of ventilation is continuously monitored at a point immediately before the gases enter No. 8 baghouse.
  - c) The Refinery Building was ventilated by new baghouse No. 9 with Teflon membrane bags to control fugitive emissions of lead from the building by maintaining an in-draft at all Refinery Building openings under normal operating conditions. The system was designed with a ventilation rate of 250,000 scfm and the baghouse gases are routed to a 100-foot stack. The rate of ventilation is continuously monitored at a point immediately before the gases enter No. 9 baghouse.
  - d) Triboflow continuous particulate monitors were installed to monitor the exhaust gases of No. 8 and No. 9 baghouses.
- 2) Dross Plant and Refinery Dross System. Completed by July 31, 2001. (§2.A.2.) Notification sent 8/22/01.
  - a) A new dross handling system was installed to minimize the handling of dross materials. The dross is water quenched and then screw conveyed to a holding hopper prior to the conveyor belt transfer system.
- 3) Blast Furnace and Dross Plant Projects. Completed by July 31, 2002 (§2.A.3.) Notification sent 8/2/02.
  - a) Doe Run installed a permanent total enclosure of the Blast Furnace and Dross Building to minimize the escape of uncontrolled air and lead-bearing particles. Roof vents and roof ventilation fans were removed. The individual feed floors and the furnace feed floor were isolated from each other by the construction of permanent walls and doors. The work practices manual outlines the procedure for keeping the building doors closed, except for entering and exiting the building.
  - b) The CV-14 conveyor belt area was enclosed. A new No. 7 baghouse with Teflon membrane filter bags was installed to ventilate the Blast Furnace and Dross Plant Buildings and maintain an in-draft at all building openings under normal operating conditions. The system was designed with a ventilation rate of 250,000 scfm and the baghouse gases are routed to a 100-foot stack. The rates of ventilation are continuously

monitored at a point immediately before the gases from the CV-14 conveyor area and Dross Plant roof areas combine.

- c) The No. 6 baghouse continues to ventilate the CV-14 conveyors and the ventilation rate is continuously measured at a point immediately before the gases enter the No. 6 baghouse.
- 4) Upon state adoption of 40 CFR part 63, subpart TTT, all references in the Judgement to the subpart are replaced with the state regulation that incorporates the federal regulation by reference, specifically, 10 CSR 10-6.075(4)(TTT).
- 5) Existing Road Dust Controls (§2.A.5.)
  - a) The installation has continued to wash roadways with fire- hoses in the plant according to procedures outlined in the Work Practice Manual.

**Consent Judgement Projects Required per 2007 SIP Control Measures:** Complete details on each of these projects will be found in the permit itself, under Permit Condition PW008.

- 1) Concentrate Delivery & South End Material Storage. Beginning on or before April 7, 2007, Doe Run shall utilize a new concentrate delivery system. (§2.A.1)
- 2) On or before April 7, 2008, Doe Run shall enclose the sinter loading area on the northeast corner of the sinter area. (§2.A.2)
- 3) Railcar Tipping Building. On or before April 7, 2008, Doe Run shall install a door on the south end of the railcar tipping building. (§2.A.3)
- 4) Sinter Machine Wheel Tunnel Ventilation. Beginning on or before April 7, 2007, Doe Run shall enclose and ventilate the hot gas section of the Wheel Tunnel of the Sinter Machine. (§2.A.4)
- 5) Number 3 Baghouse Replacement and New Cleaning Systems. On or before April 7, 2007, Doe Run shall upgrade the bags and bag cleaning system in Number 3 Baghouse. (§2.A.5)
- 6) Carrier Cooler Baghouse Enclosure. On or before April 7, 2008, Doe Run shall install and permanently operate a fume handling system. At this installation, “fume” is the material collected by the baghouse. (§2.A.6)
- 7) Fume Unloading (Pugger). On or before April 7, 2008, Doe Run shall install and permanently operate a fume handling system. Fume from Baghouse Number 5 shall be routed to the Mix Room and fed to the Sinter Machine when the Sinter Machine is in operation. (§2.A.7)
- 8) Number 5 Baghouse Fans and Blast Furnace Blowers Interlock. On or before April 7, 2007, Doe Run shall install and permanently operate an interlock control system that restricts air feed to tuyeres at the bottom of the furnace when the Number 5 Baghouse fans are not operational, such as during an electrical malfunction or mechanical failure. (§2.A.8)
- 9) Number 5 Baghouse Fans Malfunction Alarms at Blast Furnace. On or before April 7, 2007, Doe Run shall install and permanently operate a process alarm system that notifies blast furnace operators when there is a malfunction at the Number 5 Baghouse Fans. (§2.A.9)
- 10) Tuyere Controller Upgrade. On or before April 7, 2007, Doe Run shall install and permanently operate automated flow controllers on the tuyeres that inject air into the bottom of the furnace. (§2.A.10)
- 11) Blast Furnace Relocation. On or before April 7, 2008, Doe Run shall permanently relocate the Number 1 blast furnace to the former location of blast furnace Number 3. (§2.A.11)

- 12) Blast Furnace Doghouse Ventilation Improvement and Redesign of Hoods Servicing the Front of the Furnace. On or before April 7, 2008, Doe Run shall install ductwork that provides continuous ventilation to the Blast Furnace Doghouse area for the purpose of removing dust from the interior air near the top of the Blast Furnace Building. (§2.A.12)
- 13) Kettle Heat Stacks. On or before April 7, 2008, Doe Run shall install and permanently operate cameras that continuously monitor the opacity of the exits of the Kettle Heat Stacks as set forth in the Work Practices Manual. (§2.A.13)
- 14) Number 8 and Number 7&9 Baghouse Improvements. On or before April 7, 2008, Doe Run shall install pleated filters in the Number 7&9 Baghouse to increase the air to cloth ration and the improve the operation of the baghouse. On or before April 7, 2008, Doe Run shall modify the height of the Number 8 and Number 7&9 stacks to a minimum of one-hundred fifty (150) feet. (§2.A.14)
- 15) Specific Control of “North End of Blast Furnace Building to Refinery Dock” Haul Road. Beginning on or before April 7, 2007, doe Run shall control dust from the plant road from the “North End of the Blast Furnace Building to Refinery Dock” when hauling slag by truck to slag storage by using water to prevent visible fugitive emissions. (§2.A.15)
- 16) Street Sweeping. On or before April 7, 2008, Doe Run shall purchase and operate a regenerative air sweeper to service paved truck haul routes external to the plant as shown in the Work Practices Manual. Doe Run shall purchase and operate a wet sweeper to service paved areas in the plant. Weather permitting, the sweepers shall be operated a minimum of 6 hours per day, Monday through Friday, on all accessible paved surfaces in the plant that are not controlled by the In-plant Sprinkler system. The wet sweeper shall be operated to include those surfaces controlled by the In-Plant Sprinkler system when the In-Plant Sprinkler system is not operating for any reason. Reporting requirements and a map showing the sweeper coverage areas shall be provided in the Work Practices Manual. The sweeper technology may be altered, upon written approval of the Director of the Department of Natural Resources Air Pollution Control Program, if equivalent or better emissions control is achieved. The coverage area may be altered, upon written approval of the Director of the Department of Natural Resources Air Pollution Control Program, if Doe Run proposes a new haul route which would result in no additional adverse impact on air quality. The regenerative sweeper shall cover the wet sweeping area when temperatures fall below 39° F (or whenever the wet sweeper ceases operation). (§2.A.16)
- 17) In-plant Sprinklers. On or before April 7, 2008, Doe Run shall install a permanent water sprinkler system to wet paved surfaces in the plant. This system shall be maintained and operated, except when ambient temperatures fall below 39° F, or when the application of water results in the formation of ice that could result in injury to personnel. A map showing the coverage area of the sprinkler system is provided in the Work Practices Manual, which also contains operating specifications. The coverage may be altered, upon written approval of the Director of the Department of Natural Resources Air Pollution Control Program, if those areas prove to be better controlled for emissions by new sweeper technology or other equivalent or better techniques. (§2.A.17)
- 18) Building Enclosure Improvements. On or before April 7, 2008, Doe Run shall equip all man doors in the Sinter Building, Blast Furnace Building, and Refinery Building with cords, pulleys, and weights so that the doors are pulled closed automatically. Beginning on or before April 7, 2007, Doe Run shall institute lockout procedures for the large equipment doors in the Sinter Building, Blast Furnace Building, and Refinery Building. The lockout

procedures shall be outlined in the Work Practices Manual. Alternatively, Doe Run shall equip all large equipment doors with automatic closing mechanisms. All doors shall be closed at all times except to allow building access. (§2.A.18)

- 19) On or before April 7, 2007 (except in the case of the Carrier Cooler Baghouse enclosure, which shall be subject to this provision when construction is completed), and every two weeks thereafter, Doe Run shall conduct a comprehensive inspection of the siding of the Sinter Building, Blast Furnace Building, Carrier Cooler Baghouse enclosure, and Refinery Building. The inspectors shall identify and schedule building repairs necessary to minimize the escape of lead-bearing particles from the building. Records of the inspection and siding repairs shall be provided to MDNR as required in paragraph B(8)(d) of the Consent Judgement. (§2.A.19)
- 20) On or before July 1, 2007, Doe Run shall submit a work plan to MDNR for a building ventilation study for the Sinter Building, Blast Furnace Building, and Refinery Building. The work plan is subject to approval by MDNR. The work plan shall identify building openings, ventilation sources that are typically operated at continuous rates, ventilation sources where rates can be varied, and a procedure for measuring inflow into the buildings. The goal of this effort shall be to develop a mathematical relationship between inflow rates and process and hygiene fan amperages, and to establish minimum fan amperages that assure that particles emitted within the building are being appropriately captured by the ventilation systems. Within 90 days of approval of the work plan by MDNR, Doe Run shall complete the ventilation study. Within 60 days of completion of the study, Doe Run shall summarize the findings and report these to MDNR. Upon approval of the study and its findings, the minimum fan amperages identified in the study shall become enforceable conditions of this Consent Judgment. If the parties are unable to agree regarding the findings of the study, the matter shall be submitted for dispute resolution pursuant to paragraph E of the Consent Judgement. (§2.A.20)

## **ORDER TO ABATE AND CEASE AND DESIST VIOLATIONS**

On August 21, 2001, MDNR personnel responding to citizens' complaints related to dust on the streets of Herculaneum collected and analyzed a sample of road dust. The analysis indicated that the dust was lead concentrate and was probably dropped from trucks hauling the concentrate from the mills at the mines to the smelter. Additional testing by the EPA and the MDNR on August 30, 2001, found high lead content dust primarily along hauling routes approximately 50 yards down intersecting side streets.

On August 31, 2001 Doe Run was notified to immediately take action to clean the hauling routes and facilities that may contribute to dispersal of hazardous substances. On September 17, 2001 fugitive dust was observed blowing from the south side of the plant onto city property. NOV #6313 was issued for this violation. Doe Run was notified that Section XXV of the Administrative Order on Consent was invoked and that expedited assessment of residential yards, play areas and high-child use areas for lead was required as well as remediation of residential yards where children with elevated blood levels reside.

The Order to Abate and Cease and Desist Violations required Doe Run to cease activities that cause fugitive dust to leave the property. All trucks and other vehicles leaving the property were to be inspected to insure that they were free of lead concentrate and slag dust. The current truck washing procedures were to be expanded to include bed washing of concentrate trucks and wheel and under-carriage washing of all vehicles leaving the plant area and traveling on public streets. Procedures were to be put in place to insure cleaned vehicles did not travel through contamination

## SETTLEMENT AGREEMENT

On April 26, 2002 the State of Missouri, MDNR and Doe Run agreed to the making of the Settlement Agreement as a resolution of all claims arising out of the Order of September 25, 2001. The Settlement Agreement supercedes the Order, and the parties agree that the obligations contained therein are satisfied by this Settlement Agreement.

- 1) In any event, Doe Run shall pay a civil penalty in the amount of one million dollars (\$1,000,000). The one million dollars civil penalty is hereby suspended on the condition that Doe Run successfully complies with the provisions in paragraphs 20 – 22 of the Settlement Agreement.
- 2) Paragraphs 20 –22 cover the Herculaneum Voluntary Property Purchase Plan
- 3) Other paragraphs of the Settlement Agreement cover a Transportation and Materials Handling Plan

## Calculations

### 10 CSR 10-6.400

EU0010, CV-21/CV-22 transfer, MHDR = 135 ton/hr, Limit =  $55 \times 135^{0.11} - 40 = 54.3$  lb PM/hr  
Conc. = 0.10 gr PM/dscf, Flow = 3,110 dscfm,  
PM emissions =  $(0.010 \text{ gr/dscf} \times 3110 \text{ dscfm} \times 60 \text{ min/hr}) / 7000 \text{ gr/lb} = 2.67$  lb PM/hr

EU0020 Cage Paktor, Returns Bin, MHDR = 405 ton/hr, Limit =  $55 \times 405^{0.11} - 40 = 66.5$  lb PM/hr  
Conc. = 0.071 gr PM/dscf, Flow = 31695 dscfm  
PM emissions =  $(0.071 \text{ gr/dscf} \times 31,695 \text{ dscfm} \times 60 \text{ min/hr}) / 7000 \text{ gr/lb} = 19.3$  lb PM/hr

EU0030, Mix Drum & CV-24/CV-24 transfer, MHDR = 540 ton/hr, Limit =  $55 \times 540^{0.11} - 40 = 69.9$  lb PM/hr  
Conc. = 0.089 gr PM/dscf, Flow = 19810 dscfm  
PM emissions =  $(0.089 \text{ gr/dscf} \times 19,810 \text{ dscfm} \times 60 \text{ min/hr}) / 7000 \text{ gr/lb} = 15.1$  lb PM/hr

EU0040 Sinter Plant, Claw Breaker & CV39, MHDR = 270 ton/hr, Limit =  $55 \times 270^{0.11} - 40 = 61.8$  lb PM/hr  
Conc. = 0.03 gr PM/dscf, Flow = 204,464 dscfm

PM emissions =  $(0.03 \text{ gr/dscf} \times 204,464 \text{ dscfm} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 52.6 \text{ lb PM/hr}$

EU0050, Sinter Crush & Screen, MHDR = 270 ton/hr, Limit =  $55 \times 270^{0.11} - 40 = 61.8 \text{ lb PM/hr}$   
Conc. = 0.057 gr PM/dscf, Flow = 23,592 dscfm  
PM emissions =  $0.057 \text{ gr/dscf} \times 23,592 \text{ dscfm} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 11.5 \text{ lb PM/hr}$

EU0060, Carrier Cooler, MHDR = 135 ton/hr, Limit =  $55 \times 135^{0.11} - 40 = 54.3 \text{ lb PM/hr}$   
Conc. = 0.0452 gr PM/dscf, Flow = 85,194 dscfm  
PM emissions =  $0.0452 \text{ gr/dscf} \times 85,194 \text{ dscfm} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 33.0 \text{ lb PM/hr}$

EU0070, #10 Bin, MHDR = 50 ton/hr, Limit =  $55 \times 50^{0.11} - 40 = 44.6 \text{ lb PM/hr}$   
Conc. = 0.10 gr PM/dscf, Flow = 1859 dscfm  
PM emissions =  $0.10 \text{ gr/dscf} \times 1,859 \text{ dscfm} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 1.58 \text{ lb PM/hr}$

EU0080, Smooth Rolls, MHDR = 135 ton/hr, Limit =  $55 \times 135^{0.11} - 40 = 54.3 \text{ lb PM/hr}$   
Conc. = 0.0025 gr PM/dscf, Flow = 14,467 dscfm  
PM emissions =  $0.0025 \text{ gr/dscf} \times 14,467 \text{ dscfm} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 0.31 \text{ lb PM/hr}$

EU0090, Blast Charge Belts, MHDR = 73 ton/hr, Limit =  $55 \times 73^{0.11} - 40 = 48.2 \text{ lb PM/hr}$   
Conc. = 0.045 gr PM/dscf, Flow = 77,157 dscfm  
PM emissions =  $0.045 \text{ gr/dscf} \times 77,157 \text{ dscfm} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 29.8 \text{ lb PM/hr}$

EU0100, Blast Furnaces and Drossing, MHDR = 222.6 ton/hr, Limit =  $55 \times 222.6^{0.11} - 40 = 59.7 \text{ lb PM/hr}$   
Conc. = 0.0125 gr PM/dscf, Flow = 405682 scfm  
PM emissions =  $0.0125 \text{ gr/dscf} \times 405,682 \text{ dscfm} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 43.5 \text{ lb PM/hr}$

EU0110, Blast Furnace & Dross Building, MHDR = 50 ton/hr, Limit =  $55 \times 50^{0.11} - 40 = 44.6 \text{ lb PM/hr}$   
Conc. = 0.00352 gr PM/dscf, Flow = 303,163 dscfm  
PM emissions =  $0.00352 \text{ gr/dscf} \times 303,163 \text{ dscfm} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 9.15 \text{ lb PM/hr}$

EU0120, Refinery Kettles and #1 Trestle Sinter Transfer to CV-10, MHDR = 263 ton/hr, Limit =  $55 \times 263^{0.11} - 40 = 61.5 \text{ lb PM/hr}$   
Conc. = 0.002818 gr PM/dscf, Flow = 82,100 cscfm  
PM emissions =  $0.002818 \text{ gr/dscf} \times 82,100 \text{ dscfm} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 1.983 \text{ lb PM/hr}$

EU0130, Refinery Building, MHDR = 163 ton hr, Limit =  $55 \times 163^{0.11} - 40 = 56.3 \text{ lb PM/hr}$   
Conc. = 0.00243 gr/dscf, Flow = 243,702 dscfm  
PM emissions =  $0.00243 \text{ gr/dscf} \times 243,702 \text{ dscfm} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 5.076 \text{ lb PM/hr}$

EU0140, Strip Mill, MHDR = 10 ton/hr, Limit =  $4.1 \times 10^{0.67} = 19.2$  lbs PM/hr  
PM Emissions = 10 ton/hr x 0.009444 lb/ton controlled = 0.094 lb PM/hr

EU0150 and EU0160 when unloading lead concentrate, Limit =  $55 \times 180^{0.11} - 40 = 57.4$  lb PM/hr  
Pb emissions = 74 gm Pb/100 ton concentrate @ 78% Pb, therefore PM =  $74 \text{ gm}/[100 \text{ ton} \times 453.6 \text{ gm/lb} \times 0.78] = 0.0021$  lb PM/ton

MHDR = 180 ton/hr,  $EF_{\text{CONC.}} = 0.0021$  lb PM/ton, B/H Eff = 89.1%  
PM emissions = 180 ton/hr x 0.0021 lb PM/ton x (1-0.891) = 0.0412 lb PM/hr

EU0150 Conc. =  $0.0412 \text{ lb PM/hr} \times 7000 \text{ gr/lb} / 5,000 \text{ scfm} \times 60 \text{ min/hr} = 0.001$  gr PM/scf  
EU0160 Conc. =  $0.0412 \text{ lb PM/hr} \times 7000 \text{ gr/lb} / 4000 \text{ scfm} \times 60 \text{ min/hr} = 0.0012$  gr PM/scf

EU0150 and EU0160 when unloading coke, Limit =  $55 \times 180^{0.11} - 40 = 57.4$  lb PM/hr  
EU0150: MHDR = 180 ton/hr,  $EF_{\text{COKE}} = 0.042$  lb PM/ton, B/H Eff = 89.1%, Stack Flow = 5,000 scfm  
PM emissions = 180 ton/hr x 0.042 lb PM/ton x (1 - 0.891) = 0.82 lb PM/hr  
Concentration =  $[0.82 \text{ lb PM/hr} \times 7000 \text{ gr/lb}] / [60 \text{ min/hr} \times 5000 \text{ scfm}] = 0.019$  gr PM/scf

EU0160: MHDR = 180 ton/hr,  $EF_{\text{COKE}} = 0.028$  lb PM/ton, B/H Eff = 89.1%, Stack Flow = 4,000 scfm  
PM emissions = 180 ton/hr x 0.028 lb PM/ton x (1 - 0.891) = 0.55 lb PM/hr  
Concentration =  $[0.55 \text{ lb PM/hr} \times 7000 \text{ gr/lb}] / [60 \text{ min/hr} \times 4000 \text{ scfm}] = 0.016$  gr PM/scf

EU0180 Silver Dross Process, MHDR = 0.84 ton/hr, EF = 0.87 lb PM/ton, Control Eff = 85.5%  
PM emissions = 0.84 ton/hr x 0.87 lb PM/ton x (1-0.855) = 0.106 lb PM/hr

EU0190 Silver Dross Upgrading process – MHDR = 0.189 ton/hr, Limit =  $4.1 \times 0.189^{0.67} = 1.34$  lb PM/hr  
PM Emissions = 0.189 ton/hr x 0.0358 lb/ton controlled = 0.0068 lb PM/hr

EP054 Lime Silo, MHDR = 7.5 ton/hr, EF = 0.072 lb PM/hr, Eff. = 90%  
PM Emissions = 7.5 ton/hr x 0.072 lb PM/ton x (1 - 0.9) = 0.054 lb PM/hr

### 10 CSR 10-5.030

EU0200, Exist. Sources = 73.40 MMBtu/hr Allowed PM rate =  $1.09 \times 73.40^{-0.259} = 0.36$  lb PM/MMBtu

EU0210, New Sources = 33.18 MMBtu/hr  
Total Q = 106.58 MMBtu/hr Allowed PM rate =  $0.80 \times 106.58^{-0.301} = 0.20$  lb PM/MMBtu

AP-42 PM emission factor for natural gas = 7.6 lb PM/MMCF, Heating Value = 1050 MMBtu/MMCF

PM emissions from combusting natural gas = 7.6 lb PM/1050 MMBtu = 0.00724 lb PM/MMBtu  
 Therefore all existing and new indirect heating sources are in compliance with the regulation.

**Test Results**

**10 CSR 10-6.120**

Source	Main Stack	B/H 7 & 9	B/H 8
Limit, lb Pb/24 hr	794	56.6	8.2
Test 12/09/04	170.4		
Test 12/10/03	114.9		
Test 1/28/03	413.9		
Test 12/05/02		46.5	5.1
Test 4/02	553		
Test 4/27/01	113.3		

**10 CSR 10-6.260**

Plant Wide Limit = 20,000 lbs SO<sub>2</sub>/hr; Stack Test 12/09/04 SO<sub>2</sub> emissions = 10,982 lbs/hr

**40 CFR part 63, subpart TTT**

Test Date	Result, gms Pb/ tonne Pb produced	Limit, gms Pb/ tonne Pb produced
12/09/04	180.9	500
12/10/03	131.5	500
1/28/03	473	500
04/02	568 *	500
4/27/01	84.5	500

\* NOV issued.

**40 CFR part 60, subpart R**

Source	PM limit	Result Gr/dscf	COMS Opacity Limit	Result
Sinter Plant Smooth Rolls	0.022 gr/dscf	Test 11/20/86 0.0025 gr/dscf	20 %	Quarterly Reports <20%

**Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis**

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

- 1) The specific pollutant regulated by that rule is not emitted by the installation;
- 2) The installation is not in the source category regulated by that rule;
- 3) The installation is not in the county or specific area that is regulated under the authority of that rule;
- 4) The installation does not contain the type of emission unit which is regulated by that rule;
- 5) The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the APCP's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation, which was not previously cited, the installation shall submit to the APCP a schedule for achieving compliance for that regulation(s).

Prepared by:

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Environmental Engineer