



CITY OF PHILADELPHIA

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Robert T. Ostrowski
Director For Air Management Services

September 21, 1994

Mr. Joseph Carroll
Vice President
MDC Industries, Inc.
Collins and Willard Streets
Philadelphia, PA 19134

Dear Mr. Carroll:

You are hereby notified that the Air Management operating license 750639 is amended, effective immediately, to include the conditions contained in the attached License (Permit) to Operate Equipment Venting Into Atmosphere that is dated 9/21/94 (Pb SIP Permit).

As stated on Page 2 of the amendment, the Pb SIP Permit shall remain enforceable by the U.S. EPA as part of the State Implementation Plan notwithstanding any expiration of the license (permit). The Pb SIP Permit shall serve as the Philadelphia regulations applicable to your source for the purpose of attaining and maintaining compliance with the lead National Ambient Air Quality Standards (NAAQS). Other regulations will continue to be in effect and will apply in addition to the Pb SIP Permit requirements.

If you have any questions, please contact me at 215-685-7572.

Sincerely,

Satish Suri

Satish Suri
District Engineer

:if

attachment: PB SIP PERMIT

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**CITY OF PHILADELPHIA - DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENTAL PROTECTION DIVISION - AIR MANAGEMENT SERVICES
LICENSE (PERMIT) TO OPERATE EQUIPMENT VENTING INTO ATMOSPHERE**

Effective Date: September 21, 1994.

Pursuant to Section 3-306(2)(c) of the Air Management Code, this License to Operate (permit) shall be renewed annually at a time established by the Department of Licenses and Inspections. The permit shall not be renewed where the installation is in violation of Title 3, Air Management Code, unless it is in compliance with an improvement plan approved under the Code. Separate "Installation Permits" are used for equipment changes.

Plant: MDC Industries, Inc.
Castor and Delaware Avenues, Philadelphia Pa. 19134

Office: Willard and Collins Streets, Philadelphia Pa. 19134

Contact: Joseph Carroll, Vice President
William Devlin, Environmental Manager

Telephone Plant: 215-425-8880 Office: 215-426-5925
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Raw Materials: MDC receives reverberatory furnace granulated slag from Franklin Smelting and Refining (FSR) Corporation's secondary copper plant. FSR's furnaces are across Castor Ave from MDC but offset to the northwest of the PGW tanks. Storage piles at MDC also contain former coal boiler slags, which MDC found to be free of lead. The Department intends that boiler slag processing may resume at any time, subject to existing regulations. Processing of other slags may also resume after the Department has considered the chemical content of the slags and finds any air quality impact of the processing to be consistent with existing permit approvals.

Product: Abrasives, roofing products and filler materials.

SIC: 3291 Abrasives

Principal Processes:

SCC	#	Equipment	Function	Controls
30599999	1	Slag Rotary Dryer	Slag Drying	Main Baghouse
30599999	1	Slag Crusher	Pretreatment	Main Baghouse
30599999	1	Screen	Sizing	Cyclone/Baghouse
30599999	5	Silos	Storage	Baghouse
30599999	2	Truck Fill Stations	Loading	2 Baghouses

Severability

The paragraphs and requirements of this permit are severable. Should any part be found to be invalid or unenforceable, the remainder shall continue in full force and effect.

Process Changes and Permit Revisions

This permit may be modified, revoked, reopened, reissued or terminated for cause. MDC may submit applications for minor changes to the equipment and permit requirements provided that such changes have no impact on the allowed emissions or on the maintenance of any NAAQS. Changes which impact on allowed emissions or which alter dispersion characteristics may require a revised lead SIP for MDC. Prior to changes to MDC's operating permit, installation permits are required. Air Management Code installation permits apply to most changes. Emission decreases or changes with no impact on operating permits require installation permits.

Prompt Reporting of Deviations

MDC shall report deviations from permit requirements within twenty-four hours. The written follow-up shall include corrective and preventive measures taken. "Deviations" means any change in the reported operation or its status under requirements of the air permit and regulations. Reportable events include, but are not limited to, operating hour changes, missing panels or windows not promptly replaced, changes in baghouse filter efficiency based on filter construction or fabric and process changes which impact on air emissions or stack parameters as used in the lead dispersion model. Permit application reasons listed in Process Changes and Permit Revisions above are also reportable deviations.

Additional deviations are excesses of emission limits and non-conformance with the federal and state clean air acts or the Philadelphia Air Management Code, regulations promulgated thereunder, plan approvals, permits or orders of the Department. Deviations during maintenance are reportable for the purposes of this permit.

Future Requirements

MDC is hereby notified that future federal requirements taking effect during the term of this permit may cause this permit to be reopened to incorporate the new requirements. Under Philadelphia Air Management Code Section 3-306(1)(a) and Regulation I Section II A.5.b of the Philadelphia Air Pollution Control Board (APCB), changes to installations which impact upon air emission rates are reportable to the Department and may be subject to permits. Regulation I Section II A.4.b also states "Where regulations are amended or new regulations adopted, the holders of permits and licenses issued prior to the effective date thereof shall comply with any new requirements within the period of time provided therein."

Federal Enforceability

This permit shall remain enforceable by the U.S. Environmental Protection Agency as part of the State Implementation Plan notwithstanding the expiration date of this permit. Inspection authority, including the requiring of information and reports, the taking of samples, and the performance of tests, as necessary, to determine compliance with the Philadelphia Air Management Code and regulations adopted under it is cited in Section 3-304 of the Code. The action also authorizes entry for examination at all reasonable times, as provided by law.

Source:

Metal slag from a secondary copper rocker reverberatory furnace at Franklin Smelting, and boiler slags from other suppliers, are dried and sized at MDC for packaging as abrasive, roofing and filler materials. Approximately six to ten loads of slag are received per day. MDC creates several grades of abrasive materials based on the final size categories as well as the roofing and filler materials.

Appendix A lists the specific equipment addressed by this permit and their dispersion model identification codes (IDs).

One of two feed bins is filled by a front-end loader. The second bin is for a seldom used crusher which would require re-permitting for any additional operation. Slag from the charge bin is fed to a gas fired dryer. The dried slag is then screened and cleaned, by means of a baghouse controlled air aspirator, before being sent to storage tanks or loading stations by screw conveyor and bucket elevator. About thirty per cent of the material fed to the dryer exceeds a size limit for packaging and is sent through a small crusher. The output of the crusher is then recycled to the front of the dryer for final sizing by the screens. Two baghouse-controlled telescopic spouts are used for bulk loading of trucks. Products are also shipped in bags.

MDC has a baghouse for controlling the dryer, two baghouses for screens, the crusher, handling, and process area ventilation and two baghouses for truck loading stations. A HEPA vacuum is used for clean-up in the main screen building as well. Dry roads are treated with a dust suppression chemical at least once per week and as needed. Inactive surfaces on storage piles have hard crusts formed from the application of the same dust suppression chemical.

Background for Emission Limits

For two small baghouses at MDC a percentage of lead, based on lead emission tests for a former dryer scrubber, was applied to a particle limit of 0.04 gr/dscf. The dryer baghouse lead emissions were set equal to the particulate emission for the highest stack test to form a conservative limit for lead emissions.

For particulate, the lowest federal, state, local, permit or dispersion model limit applies for each source. The state particle limit is 0.04 gr/dscf, since MDC is not affected by Table I of 25 PA 123.13(b), and no NSPS or other federal limit applies. The permit limit of 0.02 gr/dscf for particulate is, therefore, the lowest of the applicable limits. The two remaining baghouses at MDC each control one of two truck filling stations which operate for twenty minutes per truck a few times a day. The truck station baghouses are insignificant sources of lead.

Allowable emissions under federal, state and city rules are in Appendix C. The regulations may not be exceeded despite the emission limit in Table 1 of this permit. Opacity limits of 10%, 20% or 60% contained in 40 CFR 60 Subpart M, Philadelphia's Regulation II and in past permits or licenses issued to MDC are applied in addition to more stringent limits established by this permit and for the lead SIP demonstration.

Specific Emission Limits

1. Process emission limits are in Table 1 of this permit. The lower of the computed or table rate would apply if an unusual low air flow or process materials rate results in a calculated regulation limit which is lower than the Table 1 limit.
2. MDC shall maintain its processes and controls to be consistent with good air pollution control practice for minimizing stack emissions and eliminating fugitive emissions.
3. The emission limits stated in this section and in Table 1 shall not be differentiated in terms of emissions during start-ups as opposed to emissions during normal or steady-state operations. Regulations of the Philadelphia Air Pollution Control Board and Pennsylvania DER, unlike federal Standards of Performance for New Stationary Sources (NSPS), do not specify periods of start-up or other transient conditions with respect to allowable emissions.
4. In response to any visible stack emission, the Department intends on its own part, and requires of MDC in a manner which is self-initiated and immediate, that visible pollutant emissions of the slightest quantity from any stack shall cause an investigation which, in every instance, shall end with the prompt elimination of the visible emission. Paragraph 5 of this Emission Limits section of this permit gives the procedures for determining zero per cent (0%) opacity from stacks. The following conditions apply to stack opacities which are below twenty per cent (20%):
 - a. MDC shall commence corrective actions in response to any quantity of visible emissions within fifteen (15) minutes of its observation.
 - b. MDC shall within five (5) minutes initiate corrections or discontinuance of operation of any equipment in case of failure of any air pollution control device on such equipment which results in increased emission or when such device is causing an emission in excess of any applicable regulation, or other enforceable condition, except where continued operation is approved by the Department. The Department shall consider potential impacts on maintenance and attainment of the lead NAAQS in its review of any request for such continued operation.
 - c. Opacities below twenty per cent (20%) shall not, being the sole deviation from normal operation, be the cause of issuance of a citation for non-compliance with this permit. The Department may, however, issue citations, for failures to commence corrective action within fifteen minutes or, at any time, for violations of agreements, orders, regulations or other enforceable conditions, including those otherwise in this permit, which may apply.
 - d. The Department shall promptly report its own observations of any visible emission so as to assist in initiating corrective actions within fifteen minutes.

e. Complete elimination of low opacity, typically less than twenty per cent (20%), visible stack pollutant emissions shall be accomplished within sixty minutes of its first evidence. MDC shall initiate process shutdown upon an hour of such low opacity emissions unless, by consulting an AMS Engineer active in enforcing this permit or a level four manager of the Department who is familiar with MDC's lead SIP demonstration, MDC obtains an agreement confirmed in writing for additional time up to an additional two hours. This provision for shutdown after one hour does not affect the requirement to initiate shutdown within five (5) minutes where the emission cause is a failure of a control device.

f. Where the Department finds that minor visible emissions do not warrant immediate shutdown after three hours, as when there are unwanted secondary effects of such shutdown or specific circumstances related to the cause of emissions, MDC shall first submit appropriate dispersion model parameters or model results to the Department before requesting an extension of its operation. The data shall be sufficient to determine whether continued operations may increase any twenty four (24) hour ambient lead impact anywhere by five (5) micrograms per cubic meter or whether the actual calendar quarter may have an excess of the lead NAAQS. This may be based on concentrations already measured for the quarter, on the usual concentrations measured near the site of the predicted maximum or on other information available to the Department. The Department shall not approve an extension to operate any source with continued visible emissions if it finds that such emissions may result in non-attainment with the lead NAAQS.

5. For observing opacities of less than twenty per cent (20%), from stacks only, the observer shall use the rounded six minute average opacity method described in the U.S. EPA document Lead-Acid Battery Manufacture-Background Information for Promulgated Standards (EPA-450/3-79-028b, Nov. 80). Copies of pertinent pages (2-8, 2-26) are in Appendix D of this permit. The observer determines each opacity within five per cent (5%) and the six (6) minute average opacity, consisting of twenty-four observations, is rounded to the nearest whole number. This observation procedure shall not apply to opacities of 20% or more for which existing code and regulation limits for opacity apply. Existing Philadelphia rules determine a total period of excess emission or compare the observation with a maximum limit which is not to be exceeded at any time and such rules remain in effect.

6. Fugitive emissions differ from stack emissions and are subject to 25 PA 123.1 and Philadelphia's Regulation II Section VIII. Pursuant to 25 PA 123.1(a)(9), the Department may review applications for exceptions where a the source is minor and where attainment or maintenance of a NAAQS is not compromised subject to the conditions of Process Changes and Permit Revisions section of this permit. An exception shall first apply at least reasonably available control measures, as stipulated in 25 PA 123.1. Applications for exceptions shall also document the analysis of alternative controls and processes which might eliminate the need for an exception.

Table 1 - Point (Stack) Sources Emission Limits

Lead (Pb):

Area/ID	Site	Lb/Hr	Ton/Yr ^a
MDCBH1	Slag screening	.047 ^b	.103
MDCBH2	Abrasive sizing	.095	.209
MDCBH5	Dryer	.12	.263

Particulate:

Area/ID	Site	Lb/Hr ^c	Ton/Yr
MDCBH1	Slag screening	1.09	2.39
MDCBH2	Abrasive sizing	1.84	4.04
MDCBH5	Dryer	3.25	7.14

a. MDC's process operating limits are 84 hours per week. MDC is permitted to run at full capacity for twenty-four (24) hours in any given day but the total hours in a week may not exceed eighty-four (84).

b. Lead emissions are the same as for the model of 3/1/93.

c. Particulate emissions are based on existing permit limits of 0.02 gr/dscf.

Operating Requirements

1. MDC shall keep a buffer zone approximately five feet wide or a barrier between the raw materials or products or residues and plant boundaries or roadway adjacent to MDC's plant to prevent spillage beyond its property, including but not limited to dispersal to the atmosphere.
2. MDC may petition for increases in production rates and changes to operating parameters stated in this permit. To be approvable, MDC must demonstrate to the Department's satisfaction continued compliance with all NAAQS and increments. Emissions at the new operating rates shall not exceed the allowable hourly or total quarterly emission rates established by this permit.
3. MDC shall maintain the stack parameters values submitted in support of the dispersion model and this permit in such a manner that a reanalysis of the lead attainment demonstration model would continue to show attainment.
4. No processes shall be installed or operated which were not specifically included in this permit until the Department has approved such installation or operation.

8

Fugitive Emission Sources

The Department intends that MDC will institute such pollution prevention practices throughout its plant and in a continuous manner so as to contain pollutants within the processes. The Department also intends that frequent sweeping be replaced with a plant-wide policy of dust suppression and containment. Any air emissions generated by materials handling, transport and removal operations shall be subject to control through filtration. For roads bordering on MDC, tire tracks which leave visible residues whether inside or outside of the plant property are not permissible. All sizes of deposited materials shall be controlled.

1. No dusts capable of being air-borne, or materials subject to mechanical abrasion and subsequently being air-borne, shall leave the MDC property except where packaged or contained for transport so as to avoid wind dispersion or depositing on ground surfaces.
2. For the purpose of this permit, MDC shall not stipulate particle sizes for initiating dust control in order to avoid abrasive size reduction of large particles and subsequent dispersal.
3. MDC shall continue road maintenance activity in a manner as to restrict cleaning needs to mainly spill removals. MDC shall initiate clean-up activities for any road deposits and, where required, the cause for such deposit within five minutes of its discovery and complete the cleanup as soon as possible but within thirty minutes.

MDC shall operate and maintain materials handling operations, processes and controls at the plant in a manner so as to comply with Pennsylvania Title 25 Pa Code Section 123.1 (a) which states in part " No person may permit the emission into the outdoor atmosphere of a fugitive air contaminant from a source other than the following:.."(PA listed 9 exceptions).

The "other" sources which are present at MDC are the uses of roads and streets and stockpiling of materials. Pennsylvania states further in "Emissions from material in or on trucks, railroad cars and other vehicular equipment are not considered as emissions from use of roads and streets". Further, although stockpiling of materials is a specified excluded source category, 25 Pa 123.19(c) requires ".. all reasonable actions to prevent particulate matter from becoming airborne" for excluded sources. Reasonable actions will apply to construction, demolition and land clearing which may occur at MDC. MDC shall notify the Department in writing twenty-one (21) days prior to construction, demolition and land clearing.

5. MDC shall operate and maintain materials handling operations, and all exposures of materials capable of being wind-blown, in a manner so as to comply with Regulation II, Section VIII of the Philadelphia Air Pollution Control Board. The Department intends that effective measures as required by Regulation II, for this permit, would include immediate dust suppression or mitigative actions for any visible emissions as well as follow-up procedures to achieve continuous pollution prevention.

Monitoring Requirements

1. All monitors specified in Table 2 shall have regularly scheduled inspections and calibrations which meet, at a minimum, the recommendations of the manufacturer.

Table 2 - Monitor Requirements

Control	ID	Site	Monitor
Main Baghouse	MDCBH5 ^a	Stack	Particle detector
3 Baghouses	MDCBH1,2,5	Per Baghouse	Pressure drop
2 Baghouses	Loading ^b	2 Truck stations	Inspections

a. The Department is limiting the continuous particle monitor requirement to the main baghouse only on the condition that the pressure drop gauges and visual inspections suffice to maintain clear stacks. If the Department finds visible emissions which are not promptly corrected, it may require additional monitoring. Detectors, where required, shall have sufficient sensitivity to signal continuous particle emission increases at concentrations below which the emissions would be observable visually.

b. As for the particle monitor, the department may require pressure drop monitors for the loading station baghouses if visible emission problems are observed.

c. It is the intent of the Department that alternate or additional monitoring may be approved, without a new SIP revision, provided that the monitoring requirement is at least as stringent as was specified in this permit.

Testing Requirements

The Department reserves the right to establish emission test requirements in response to its air program activities pursuant to the authorities established in the Philadelphia Air Management Code. MDC may substitute a bag inspection program in lieu of periodic baghouse testing for particulate and lead emissions as follow:

1. MDC shall comply with the most current schedule for bag inspections and replacement as approved by AMS.
2. MDC shall correct the schedule for bag inspections and replacement within 30 days of notice from the Department that the maintenance on the baghouse is deficient.

Methods

Compliance with the emission rate limits in this permit shall be determined according to the following methods.

1. Particulate mass emissions shall be measured by 40 CFR 60 Appendix A Reference Method 5 and the support methods 1 through 4 or their EPA approved alternatives.
2. Lead mass emissions shall be measured by 40 CFR 60 Appendix A Reference Method 12 and the support methods 1 through 4 or their EPA approved alternatives.
3. Heavy metals shall be measured by the procedure for "multiple metals" in 40 CFR 60 Appendix A tentative Reference Method 29 and support methods 1 through 4 or their EPA approved alternatives.

Recordkeeping Requirements

MDC shall maintain the Fugitive Emission Prevention Program first submitted to the Department in October of 1988, including its amendments, in a continuous manner, notwithstanding any expiration of this permit.

Records shall be maintained for five years from the date of sample, measurement, instrument recording, report, or application and be made available to the Department upon request.

At a minimum, MDC shall maintain records consistent with 40 CFR 70.6, which pertains to permit contents, and also records which will clearly demonstrate its compliance status with regard to each permit condition. These records shall also document compliance with the emission limit table, operating limit table, monitoring requirement tables and the list of permitted equipment in this permit as well as the following:

1. All monitor equipment inspections, calibration and their adjustments or other results.
2. The onset and duration of all start-ups, shutdowns and malfunctions of the rotary dryer and any malfunctions of any of the remaining air pollution controls and their monitors.
3. Repair records for processes, air pollution controls and their monitors.

Reporting Requirements

1. By the fifteenth day after a calendar quarter, MDC shall submit a quarterly report showing its analysis of the compliance status under this permit for the prior quarter, any identified visible emission areas and MDC's progress in resolving emission problems. The analysis shall include a summary of the emission events captured by MDC's inspections and by its particle monitors. Each report shall be complete in its representation of the permit requirements. The quarterly report shall be submitted until the Department finds in writing that the NAAQS for particulate and for lead are being maintained. One year after AMS finds attainment of the lead NAAQS, MDC shall submit reports as requested by the Department.

Appendix A

Specific Equipment Included in the Permit

<u>SOURCE ID</u>	<u>DESCRIPTION OF SOURCE</u>
MDC Sources	
MDCBH1	MDC baghouse stack 1. *
MDCBH2	MDC baghouse stack 2. *
MDCBH5	MDC baghouse stack 5. *
MPROC FUG	Fugitive emissions from MDC process building.
PILEMDC1-	Wind-blown dust from MDC pile represented by 9 sources
PILEMDC9	in model.
RD68-RD69	MDC road.
RD81-RD83	MDC road.
RD84-RD86	MDC road.
RD90-RD94	MDC road.
TRNPILE	Material transfer to and from pile.
TRNSHED	Material transfer to process shed.
TRNTRUCK	Truck loading area (material transfer).
Other Sources	
C1-C16	Emissions from traffic on nearby section of Castor Ave.
D1-D18	Emissions from traffic on nearby section of Delaware Ave.

* Refers to a stack source

Appendix B- References for Table 1 Allowed Emissions

<u>Area/ID</u>	<u>Reference</u>	<u>Comments</u>	
Lead_(Pb):	MDCBH1	25PA123.13	Model - .04 gr/dscf adjusted by PM10/Pb ratio.
	MDCBH2	25PA123.13	Model - .04 gr/dscf adjusted by PM10/Pb ratio.
	MDCBH5	1992 Test	Model - worst case as all lead.
Particulate:	MDCBH1	Existing Permit	.02 gr/dscf
	MDCBH2	Existing Permit	.02 gr/dscf
	MDCBH5	Existing Permit	.02 gr/dscf

Appendix C- References for Table 1 Allowed Emissions

Federal, State, Philadelphia Allowed Emission Regulations

MDC : Miscellaneous Allowable Emissions

Pollutant - Sulfur Dioxide

MDC uses gaseous fuels in its dryer and is not a significant source of sulfur oxides.

Pollutant - Carbon Monoxide

Pennsylvania- There are no source regulations for carbon monoxide for Pa. Under 127.63(3), CO sources with maximum allowed emissions greater than 50 TPY, 1000 Lb/day or 100 Lb/hr may be subject to special permits depending on where and how much they impact. MDC is not currently affected by any Pa regulation for CO.

Philadelphia- There are no source regulations for carbon monoxide for the source at MDC.

Pollutant - Nitrogen Oxides

Pennsylvania- The only source emission limit for nitrogen oxides applies to nitric acid plants. Under 123.51, combustion units rated at 250 MMBTU or more and having annual average capacity factors of greater than 30% must be equipped with continuous emission monitors for nitrogen oxides. MDC is not currently affected by any Pa regulation for NOx.

Philadelphia- Reg. VII, Section II affects fuel burning of 250 MMBTU or more. Gaseous and liquid/solid fuels are limited to 0.20 & 0.30 Lb NOx/MMBTU heat input maximum two hour average. Nitric acid plants, in Section III, are limit to 3 Lb NOx/ton of acid produced. No Philadelphia NOx regulations affect MDC.

Pollutant - Lead

All Rules - Pennsylvania, Philadelphia and the U.S. EPA have not established lead (Pb) emission limits for the equipment at MDC. The lead SIP revision required by the notice to Pennsylvania's Governor in July 1992 applies to all sources of lead at MDC since none fall under existing regulations.

Pollutant - VOC

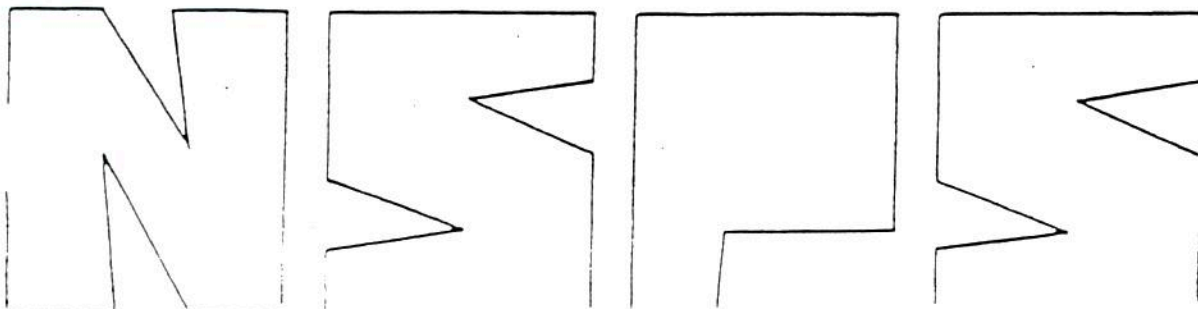
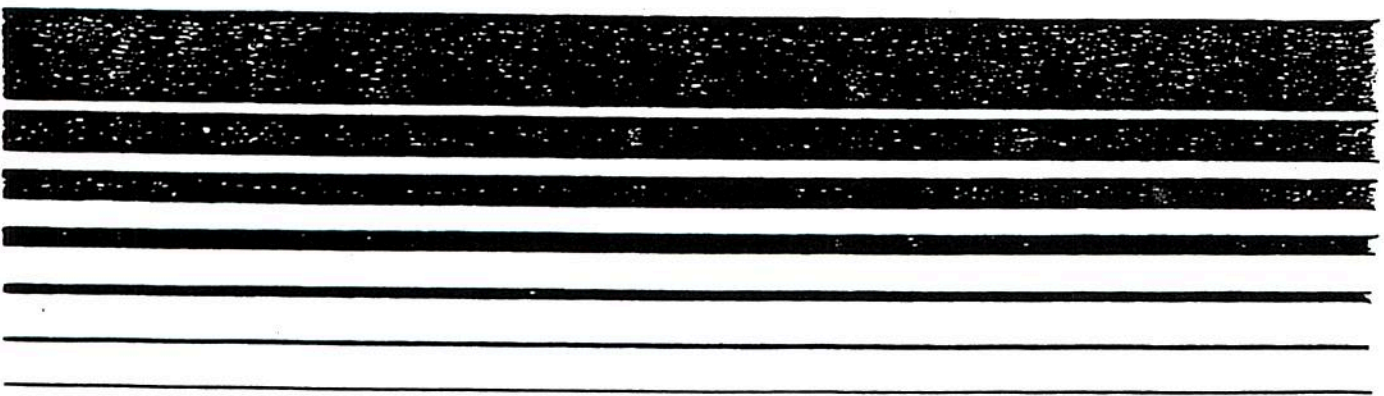
All Rules - Pennsylvania, Philadelphia and the U.S. EPA have not established VOC emission limits applicable to MDC. VOC emissions at MDC are from fuel combustion. The largest such source, the rotary dryer, is a minor source of VOC emissions.

Appendix D

Reference Method for Opacity Less Than 20%

Air

A Lead-Acid Battery EIS Manufacture - Background Information for Promulgated Standards



filter cleaning phases. Also, under the promulgated standards, compliance with the opacity standard is to be determined by taking the average opacity over a 6-minute period, according to EPA Test Method 9, and rounding the average to the nearest whole percentage. The rounding procedure is specified in order to allow occasional brief emissions with opacities greater than 0 percent, which may occur during fabric filter cleaning.

A standard of 0 percent opacity was also proposed for lead reclamation facilities. Emissions with opacities greater than 0 percent were observed from the lead reclamation facility tested by EPA, which was controlled by an impingement scrubber. However, because the proposed emission limit for lead reclamation was based on transfer of fabric filtration technology, the 0 percent opacity standard was considered reasonable. As noted in Section 2.2 of this chapter, the final emission limit for lead reclamation is based on the demonstrated emission reduction capabilities of the impingement scrubber system tested by EPA. Therefore, the opacity standard for lead reclamation has also been changed. The final opacity standard is 5 percent, based on observations at the facility tested by EPA. Emissions from this facility were observed for 3 hours and 22 minutes, and, during this period, emissions ranging from 5 to 20 percent opacity were observed for a total of about 1 minutes. The highest 6-minute average opacity during the 3 hour and 2 minute observation period was 4.8 percent. Therefore, the 5 percent opacity standard for lead reclamation is considered reasonable.

Under the general provisions applicable to all new source performance standards (40 CFR 60.11), an operator of an affected facility may request the Administrator to determine the opacity of emissions from the affected facility during the initial performance test. If the Administrator finds that an affected facility is in compliance with the applicable standards for such performance tests are conducted, but fails to meet an applicable opacity standard, the operator of the facility may petition the Administrator to take an appropriate adjustment to the opacity standard for the facility.

Comment: Some commenters stated that EPA should establish a relationship between opacity and emissions before setting opacity standards.

minimum sampling time has been changed from 180 minutes, in the proposed regulation, to 60 minutes, in the promulgated action. The change reflects an alteration in the standard for grid casting.

2.7.2 Reference Method 9

Comment: Two commenters expressed concern that Method 9 is not accurate enough to be used to enforce a standard of 0 percent opacity. One commenter stated that it is difficult to discern the difference between 0 percent opacity and 1 percent opacity for a given reading.

Response: No single reading is made to the nearest percent, rather, readings are to be recorded in increments of 5 percent opacity and averaged over a period of 6 minutes (24 readings). For the regulation for lead-acid battery manufacture, the 6 minute average opacity figure is to be rounded to the nearest whole number. The opacity standard for lead-acid battery manufacture is based on opacity data taken for operating facilities, and these data have shown that this standard can be met (Section 2.1 of this chapter).

8 REPORTING AND RECORDKEEPING

Comment: A number of commenters contended that the proposed pressure monitoring and recording requirement for control systems would not serve to insure proper operation and maintenance of fabric filters. The commenters pointed out that a leak in a fabric filter would not result in a measurable difference in the pressure drop across the filter. One commenter suggested that the pressure drop monitoring requirement be replaced by an opacity monitoring requirement. Another commenter suggested that the pressure drop requirement be replaced by a requirement of visible inspection of bags for leaks.

Response: Based on the arguments presented by these commenters, it is concluded that proposed pressure monitoring requirement for fabric filters would not serve its intended purpose. Therefore, this requirement has been eliminated. However, pressure drop is considered to be a good indicator of proper operation and maintenance for scrubbers. Therefore, the pressure drop monitoring and recording requirement for scrubbers has been retained.

the compliance according to § 60.8 as follows:

(1) Method 12 for the measurement of lead concentrations,

(2) Method 1 for sample and velocity traverses,

(3) Method 2 for velocity and volumetric flow rate, and

(4) Method 4 for stack gas moisture.

(b) For Method 12, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.05 dscm/l (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Administrator.

(c) When different operations in a three-process operation facility are ducted to separate control devices, the lead emission concentration from the facility shall be determined using the equation:

$$C_{PbT} = \frac{\sum_{i=1}^N (C_{Pb} Q_{sd} / Q_{sdT})}{N}$$

Where: a=1
C_{PbT} is the facility emission concentration for the entire facility.

N is the number of control devices to which separate operations in the facility are ducted.

C_{Pb} is the emission concentration from each control device.

Q_{sd} is the dry standard volumetric flow rate of the effluent gas stream from each control device.

Q_{sdT} is the total dry standard volumetric flow rate from all of the control devices.

(d) For lead oxide manufacturing facilities, the average lead feed rate to a facility, expressed in kilograms per hour, shall be determined for each test run as follows:

(1) Calculate the total amount of lead charged to the facility during the run by multiplying the number of pigs (dispos) charged during the run by the average mass of a pig in kilograms or by another suitable method.
(2) Divide the total amount of lead charged to the facility during the run by the duration of the run in hours.

charged, shall be determined using the following equation:

$$E_{Pb} = C_{Pb} Q_{sd} / F$$

Where:
E_{Pb} is the lead emission rate from the facility in milligrams per kilogram of lead charged.

C_{Pb} is the concentration of lead in the exhaust stream in milligrams per dry standard cubic meter as determined according to paragraph (a)(1) of this section.

Q_{sd} is the dry standard volumetric flow rate in dry standard cubic meters per hour as determined according to paragraph (a)(3) of this section.

F is the lead feed rate to the facility in kilograms per hour as determined according to paragraph (d) of this section.

Subpart 11—Standards of Performance for Metallic Mineral Processing Plants

Source: 49 FR 6464, Feb. 21, 1984, unless otherwise noted.

§ 60.380 Applicability and design of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities in metallic mineral processing plants: Each crusher and screen in open-pit mines; each crusher, screen, bucket elevator, conveyor belt, transfer point, thermal dryer, product packaging station, storage bin, enclosed storage area, truck loading station, truck unloading station, railcar loading station, and railcar unloading station at the mill or concentrator with the following exceptions. All facilities located in underground mines are exempted from the provisions of this subpart, as are uranium enrichment plants, all facilities subsequent to and including the beneficiation of uranium ore as exempted from the provisions of this subpart.
(b) An affected facility under paragraph (a) of this section that commences construction or modification after August 24, 1982, is subject to the requirements of this part.

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shall have the meaning given them in the Act and in Subpart A of this part.

"Bucket elevator" means a conveying device for metallic minerals consisting of a head and foot assembly that supports and drives an endless single or double strand chain or belt to which buckets are attached.

"Capture system" means the equipment used to capture and transport particulate matter generated by one or more affected facilities to a control device.

"Control device" means the air pollution control equipment used to reduce particulate matter emissions or more affected facilities from one mineral processing plant.

"Conveyor belt transfer point" means a point in the conveying operation where the metallic mineral or metallic mineral concentrate is transferred to or from a conveyor belt except where the metallic mineral is being transferred to a stockpile.

"Crusher" means a machine used to crush any metallic mineral and includes feeders or conveyors located immediately below the crushing surface. Crushers include, but are not limited to, the following types: jaw, gyratory, cone, and hammermill.

"Enclosed storage area" means any area covered by a roof under which metallic minerals are stored prior to further processing or loading.

"Metallic mineral concentrate" means a material containing metallic compounds in concentrations higher than naturally occurring in ore but retaining additional processing if pure metal is to be isolated. A metallic mineral concentrate contains at least one of the following metals in any of its oxidation states and at a concentration that contributes to the concentrate's commercial value: Aluminum, copper, gold, iron, lead, molybdenum, silver, platinum, tungsten, uranium, zinc, and zirconium. This definition shall not be construed as requiring that material containing metallic compounds be refined.

"Process fugitive emissions" means particulate matter emissions from an affected facility that are not collected by a capture system.

"Product packaging station" means the equipment used to fill containers with metallic compounds or mineral concentrates.

"Railcar loading station" means that portion of a metallic mineral processing plant where metallic minerals or metallic mineral concentrates are loaded by a conveying system.

"Railcar unloading station" means that portion of a metallic mineral processing plant where metallic minerals or metallic mineral concentrates are unloaded from a railcar into a hopper, or crusher.

"Screen" means a device for separating material according to size by having undersize material through one or more mesh surfaces (screens) in a mesh surface over which material on which the material is being separated.

"Stack emission" means the particulate matter and release of fugitive emissions from a stack of

lead emissions are collected and ducted to the atmosphere and which is not part of a grid casting, lead oxide manufacturing, lead reclamation, paste mixing, or three-process operation facility, or a furnace affected under Subpart I of this part.

(1) "Paste mixing facility" means the facility including lead oxide storage, conveying, weighing, metering, and charging operations; paste blending, handling, and cooling operations; and plate pasting, takeoff, cooling, and drying operations.

(g) "Three-process operation facility" means the facility including those processes involved with plate stacking, burning or strap casting, and assembly of elements into the battery case.

$$S_e = \sum_{a=1}^N S_a (Q_{sd} / Q_{sdT})$$

Where:
 S_e - is the equivalent standard for the total exhaust stream.
 S_a - is the actual standard for each exhaust stream ducted to the control device.
 N - is the total number of exhaust streams ducted to the control device.
 Q_{sd} - is the dry standard volumetric flow rate of the effluent gas stream from each facility ducted to the control device.
 Q_{sdT} - is the total dry standard volumetric flow rate of all effluent gas streams ducted to the control device.

§ 60.373 Monitoring of emissions and operations.
 The owner or operator of any lead-acid battery manufacturing facility subject to the provisions of this subpart and controlled by a scrubbing system(s) shall install, calibrate, maintain, and operate a monitoring device(s) that measures and records the pressure drop across the scrubbing system(s) at least once every 15 minutes. The monitoring device shall have an accuracy of ±5 percent over its operating range.

§ 60.374 Test methods and procedures.
 (a) Reference methods in Appendix A of this part, except as provided under § 60.373(b), shall be used to deter-

§ 60.372 Standards for lead.
 (a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere:
 (1) From any grid casting facility any gases that contain lead in excess of 0.10 milligram of lead per dry standard cubic meter of exhaust (0.000176 gr/dscf).
 (2) From any paste mixing facility any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.00044 gr/dscf).
 (3) From any three-process operation facility any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.00044 gr/dscf).
 (4) From any lead oxide manufacturing facility any gases that contain in excess of 5.0 milligrams of lead per kilogram of lead feed (0.010 lb/ton).
 (5) From any lead reclamation facility any gases that contain in excess of 4.50 milligrams of lead per dry standard cubic meter of exhaust (0.00108 gr/dscf).
 (b) From any other lead-emitting operation any gases that contain in excess of 1.00 milligram per dry stand-

§ 60.370 Applicability and designation of affected facility.
 (a) The provisions of this subpart are applicable to the affected facilities listed in paragraph (b) of this section at any lead-acid battery manufacturing plant that produces or has the design capacity to produce in one day (24 hours) batteries containing an amount of lead equal to or greater than 5.9 Mg (6.5 tons).
 (b) The provisions of this subpart are applicable to the following affected facilities used in the manufacture of lead-acid storage batteries:
 (1) Grid casting facility.
 (2) Paste mixing facility.
 (3) Three-process operation facility.
 (4) Lead oxide manufacturing facility.
 (5) Lead reclamation facility.
 (6) Other lead-emitting operations.
 (c) Any facility under paragraph (b) of this section the construction or modification of which is commenced after January 14, 1980, is subject to the requirements of this subpart.

§ 60.371 Definitions.
 As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in Subpart A of this part.
 (a) "Grid casting facility" means the facility which includes all lead melting pots and machines used for casting the grid used in battery manufacturing.
 (b) "Lead-acid battery manufacturing plant" means any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte.
 (c) "Lead oxide manufacturing facility" means a facility that produces lead oxide from lead, including product recovery.
 (d) "Lead reclamation facility" means the facility that remelts lead scrap and casts it into lead ingots for use in the battery manufacturing

§ 60.371 Test methods and procedures.
 (a) Reference methods in Appendix A of this part, except as provided under § 60.373(b), shall be used to determine compliance with § 60.342(a) as follows:
 (1) Method 1 for sample and velocity averages.
 (2) Method 2 for velocity and volumetric flow rate.
 (3) Method 3 for gas analysis.
 (4) Method 4 for stack gas moisture.
 (5) Method 5 or 5D for the measurement of particulate matter, and
 (6) Method 9 for visible emissions.
 (b) For Method 5 or 5D, the sampling time for each run shall be at least 60 minutes, and the sampling rate shall be at least 0.05 sid in³/h, dry (0.53 dscf/min), except that other sampling rates, when necessitated by process variables or other factors, may be approved by the Administrator.
 (c) Visible emission observations of a control device with a multiple stack exhaust or a roof monitor shall occur during normal operation of the rotary kiln, at least once per day of operation. For at least three 6-minute periods, the opacity shall be recorded for 10 points where visible emissions are observed, and the corresponding opacity of the kiln shall also be recorded. These observations shall be taken in accordance with Method 9. Control shall be maintained on any opacity average that is in excess of the opacity limit specified in § 60.342(a) of this subpart.

§ 60.370 Applicability and designation of affected facility.
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 (1) Grid casting facility.
 (2) Paste mixing facility.
 (3) Three-process operation facility.
 (4) Lead oxide manufacturing facility.
 (5) Lead reclamation facility.
 (6) Other lead-emitting operations.
 (c) Any facility under paragraph (b) of this section the construction or modification of which is commenced after January 14, 1980, is subject to the requirements of this subpart.

§ 60.371 Definitions.
 As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in Subpart A of this part.
 (a) "Grid casting facility" means the facility which includes all lead melting pots and machines used for casting the grid used in battery manufacturing.
 (b) "Lead-acid battery manufacturing plant" means any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte.
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 (6) Other lead-emitting operations.
 (c) Any facility under paragraph (b) of this section the construction or modification of which is commenced after January 14, 1980, is subject to the requirements of this subpart.

§ 60.371 Definitions.
 As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in Subpart A of this part.
 (a) "Grid casting facility" means the facility which includes all lead melting pots and machines used for casting the grid used in battery manufacturing.
 (b) "Lead-acid battery manufacturing plant" means any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte.
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 (1) Grid casting facility.
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 (3) Three-process operation facility.
 (4) Lead oxide manufacturing facility.
 (5) Lead reclamation facility.
 (6) Other lead-emitting operations.
 (c) Any facility under paragraph (b) of this section the construction or modification of which is commenced after January 14, 1980, is subject to the requirements of this subpart.

§ 60.374 Test methods and procedures.
 (a) Reference methods in Appendix A of this part, except as provided under § 60.373(b), shall be used to deter-

§ 60.372 Standards for lead.
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 (1) From any grid casting facility any gases that contain lead in excess of 0.10 milligram of lead per dry standard cubic meter of exhaust (0.000176 gr/dscf).
 (2) From any paste mixing facility any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.00044 gr/dscf).
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 (5) From any lead reclamation facility any gases that contain in excess of 4.50 milligrams of lead per dry standard cubic meter of exhaust (0.00108 gr/dscf).
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 (6) Other lead-emitting operations.
 (c) Any facility under paragraph (b) of this section the construction or modification of which is commenced after January 14, 1980, is subject to the requirements of this subpart.

§ 60.371 Definitions.
 As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in Subpart A of this part.
 (a) "Grid casting facility" means the facility which includes all lead melting pots and machines used for casting the grid used in battery manufacturing.
 (b) "Lead-acid battery manufacturing plant" means any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte.
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