

217/782-2113

"REVISED"
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT
NSPS SOURCE - PM₁₀ CONTINGENCY MEASURES PLAN

PERMITTEE

Vulcan Materials Company
Attn: Eric W. Zuschlag
747 East 22nd Street, Suite 200
Lombard, Illinois 60148

<u>Application No.:</u> 72111362	<u>I.D. No.:</u> 031174AAI
<u>Applicant's Designation:</u> FESOP	<u>Date Received:</u> March 28, 2001
<u>Subject:</u> Crushing Facility	
<u>Date Issued:</u> August 13, 2001	<u>Expiration Date:</u> February 25, 2003
<u>Location:</u> Route 66 and 55th Street, McCook	

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of the following equipment, pursuant to the above-referenced application:

Flux Plant

1 - Crusher
1 - Screen

Tertiary Plant

5 - Crushers
22 - Screens

Primary/Secondary Plant

2 - Crushers
3 - Screens

Chip Plant

2 - Crushers

Sand Wash Plant

1 - Screen

Sand Plant

1 - Screen

Powerscreen - 1

Gravel Wash Plant

1 - Screen

Two Aggregate Wash Plants

1 - Double Screw Washer
2 - Washers

140 Conveyors

Storage Bins

This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons per year for particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀)) and exclude the source from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the

conditions of this permit are described in Attachment A.

- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permit(s) for this location.

- 2a. The affected facilities constructed or modified after August 31, 1983 are subject to New Source Performance Standards (NSPS), 40 CFR 60, Subparts A and 000. The Illinois EPA is administering these standards in Illinois on behalf of the United States EPA under a delegation agreement.
 - b. Fugitive emissions of particulate matter from the affected facilities shall comply with emission standards of 40 CFR 60.672.
 - c. Wet screening operations and subsequent belt conveyors shall not discharge into the atmosphere any visible emissions of particulate matter [40 CFR 60.672(h)].
 - d. The Permittee shall maintain and operate the affected facilities, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions pursuant to the NSPS, 40 CFR 60.11(d).
3. Pursuant to 35 Ill. Adm. Code 212.316 the following emission limitations shall apply:
- a. Emission Limitation for Crushing and Screening Operations. Fugitive particulate matter emissions generated by the crushing or screening of slag, stone, coke or coal shall not exceed an opacity of 10%.
 - b. Emission Limitations for Roadways or Parking Areas. Fugitive particulate matter emissions from any roadway or parking area shall not exceed an opacity of 5% as the quarry has a capacity to produce more than 1 million tons per year of aggregate.
 - c. Emission Limitations for Storage Piles. Fugitive particulate matter emissions from any storage pile shall not exceed an opacity of 10%, to be measured four feet from the pile surface.
 - d. Emission Limitation for All Other Sources. Fugitive particulate matter emissions from any source shall not exceed an opacity of 20%.
- 4a. Operation and emissions of the crushing equipment shall not exceed the following limits:

<u>Operation</u>	<u>Material Processed</u>		<u>PM₁₀ Emissions</u>		<u>PM Emissions</u>	
	<u>(T/Month)</u>	<u>(T/Year)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>
Flux Plant						
Crushing	180,000	2,160,000	0.06	0.64	0.12	1.34
Screening	180,000	2,160,000	0.08	0.91	0.16	1.91
Tertiary Plant						
Crushing	480,000	5,760,000	0.15	1.70	0.30	3.57
Screening	2,640,000	31,680,000	1.11	13.31	2.33	27.95
Primary/Secondary Plant						
Crushing	2,040,000	24,480,000	0.61	7.23	1.27	15.17
Screening	1,200,000	14,400,000	0.51	6.05	1.06	12.70

Chip Plant							
Crushing	480,000	5,760,000	0.15	1.70	0.30	3.57	
Screening	480,000	5,760,000	0.20	2.42	0.42	5.08	
Storage Bins	480,000	5,760,000	0.024	<u>0.29</u>	0.05	<u>0.61</u>	
				34.25		71.90	

These limits are based upon maximum material usage and standard emission factors (0.00059 lb of PM₁₀ and 0.00124 lb of PM/ton of material crushed, 0.00084 lb of PM₁₀ and 0.00177 lb of PM/ton of material screened and 0.0001 lb of PM₁₀ and 0.0001 lb of PM/ton of material truck loaded by storage bins). Conversion factors used, 2,000 lb/ton.

- b. i. Emissions from the conveying operations shall not exceed the following limits:
 - A. PM₁₀ - 2.9 tons per month not to exceed 11.9 tons per year,
PM - 6.0 tons per month not to exceed 25 tons per year.
- ii. For determination of compliance with the limits of this permit, conveying emissions shall be determined by the following equation:

$$E = X_i * N_i * EF$$

Where:

E = tons per month of PM₁₀ emissions

X_i = the quantity of each material processed in tons per month

N_i = the number of conveyor transfer points used to process X_i,
as defined by 40 CFR 60.671

EF = AP-42 emission factors in terms of tons of PM₁₀ emissions
produced per ton of material processed per transfer point
(0.000000024 tons PM₁₀/ton, 0.00000005 tons PM/ton)

- c. This permit is issued based on negligible emissions of particulate matter (PM) from the sand and gravel wash plants and sand plant. For this purpose emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr; as a result of limiting PM emissions, the emission of PM₁₀ are effectively limited to an equal or lesser quantity.
- d. i. The moisture content of the aggregate as crushed, screened or conveyed shall be at least 1.5% by weight so as to reduce emissions of particulate matter.
- ii. The Permittee shall show compliance with this requirement as follows:
 - A. The moisture content of a representative sample of the aggregate shall be measured at least daily or whenever aggregate from a different area of the quarry than was tested that day is crushed using ASTM Procedures (C566-89) for total moisture content of material. Compliance with this requirement may be presumed if moisture content of

aggregate as shipped is at least 1.5%; OR

- B. 1. Water sprays shall be used at each crusher and on other emission units as necessary, except when weather conditions are below or expected to fall below freezing temperatures, to provide moisture that will reduce emissions of particulate matter.

If the weather conditions are below or expected to fall below freezing temperatures, then a solution that will not freeze at the current or expected temperature shall be used.

2. Total water usage, as supplied to water spray control equipment, shall be monitored and recorded on a weekly basis using a metering device. The metering device(s) shall be located at a primary supply line(s).
 3. Inspections of water spray equipment and operation (such as leaking, adequacy of flow, clogging of flow lines, etc.) shall be performed at least once per week when the facility is in operation, OR
- C. Water saturated materials mined below the water table are being processed.
- e. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months.
 - f. Compliance with the annual limits immediately following the issuance date of this permit shall be determined using available data from the previous months.
5. No person shall cause or allow any visible emissions of fugitive particulate matter from any process, including material handling or storage activity, beyond the property line of the emission source, pursuant to 35 Ill Adm. Code 212.301.
- 6a. The Permittee shall maintain records of the following items:
- i. Material crushed for each of the following operations;
 - A. Flux Plant (tons/month and tons/year);
 - B. Tertiary Plant (tons/month and tons/year);
 - C. Primary/Secondary Plant (tons/month and tons/year);
 - D. Chip Plant (tons/month and tons/year).
 - ii. Material screened for each of the following operations;
 - A. Flux Plant (tons/month and tons/year);
 - B. Tertiary Plant (tons/month and tons/year);
 - C. Primary/Secondary Plant (tons/month and tons/year);

D. Chip Plant (tons/month and tons/year).

iii. Material throughput for the storage bins (tons/month and tons/year).

- iv. Data and calculations demonstrating monthly and yearly emissions from the conveyors determined in accordance with Condition 4b of this permit for both PM₁₀ and PM emissions (tons/month and tons/year).
 - v. Moisture content of material processed in accordance with Condition 4d (% moisture).
 - vi. Total emissions of PM₁₀ and PM (tons/month and tons/year).
- b. The Permittee shall maintain written records of the application of control measures as may be needed for compliance with the opacity limitations of 35 Ill. Adm. Code. 212.316 and shall submit to the Illinois EPA an annual report containing a summary of such information.
- i. The records required shall include at least the following:
 - A. The name and address of the plant;
 - B. The name and address of the owner and/or operator of the plant;
 - C. A map or diagram showing the location of all emission sources controlled including the location, identification, length, and width of roadways;
 - D. For each application of water or chemical solution to roadways by truck: the name and location of the roadway controlled, application rate of each truck, frequency of each application, width of each application, identification of each truck used, total quantity of water or chemical used for each application and, for each application of chemical solution, the concentration and identity of the chemical,
 - E. For application of physical or chemical control agents: the name of the agent, application rate and frequency, and total quantity of agent and, if diluted, percent of concentration, used each day;
 - F. A log recording incidents when control measures were not used and a statement of explanation.
 - ii. Copies of all records required by this Section shall be submitted to the Illinois EPA within ten (10) working days after a written request by the Illinois EPA, and shall be transmitted to the Illinois EPA by a company-designated person with authority to release such records.
 - iii. A quarterly report shall be submitted to the Illinois EPA stating the following: the dates any necessary control measures were not implemented, a listing of those control measures, the reasons that the control measures were not implemented, and any corrective actions taken. This information includes, but is not limited to, those dates when controls were not applied based on a belief that

application of such control measures would have been unreasonable given prevailing atmospheric conditions, which shall constitute a defense to the requirements of this Section. This report shall be submitted to the Illinois EPA 30 calendar days from the end of a quarter. Quarters end March 31, June 30, September 30, and December 31.

- c. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA's request for records during the course of a source inspection.

7. If there is an exceedance of the emission limitations of this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released, a copy of the relevant records, a description of the exceedance, and efforts to reduce emissions and future occurrences.

8. Within 90 days of receipt of notification by the Illinois EPA that either:
 - a. There is a violation of the natural ambient air quality standard for PM₁₀ (See 35 Ill. Adm. Code Section 243.120) and Permittee is a "culpable" source under 35 Ill. Adm. Code Section 212.702, Permittee shall implement either the Level I (15%) measures or Level II (25%) measures in the source's PM₁₀ Contingency Measure Plan, and as specified by the Illinois EPA in such notification, or
 - b. There is a finding of failure to attain the national ambient air quality standard for PM₁₀ issued by the Administrator of USEPA, Permittee shall implement the Level II (25%) measures in the source's PM₁₀ Contingency Measure Plan, and as specified by the Illinois EPA in such notification.

- The reduction specified by the Illinois EPA in any notification, either Level I or Level II measures, shall be consistent with the provisions of 35 Ill. Adm. Code Sections 212.704(c) pr 212.704(d), as applicable.

9. The Permittee shall comply with the recordkeeping and reporting requirements of 35 Ill. Adm. Code Section 212.316(g) upon receipt of notification from the Illinois EPA that Permittee must implement contingency measures pursuant to either 35 Ill. Adm. Code Sections 212.704(b) or 212.704(c).

10. If Permittee elects to comply by means of the provisions of 35 Ill. Adm. Code Section 212.705, rather than through the provisions in the source's PM₁₀ Contingency Measure Plan, the source shall keep such records as may be specified by the Illinois EPA at the time the source elects to comply by means of 35 Ill. Adm. Code Section 212.705.

11. The owner or operator of any screening operation, bucket elevator, or

belt conveyor that processes saturated material and is subject to §60.672(h) and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the 10 percent opacity limit in §60.672(b) and the emission test requirements of §60.11 [40 CFR 60.676(g)].

12. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

13. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year:

i. Material crushed for each of the following operations;

- A. Flux Plant (tons/year);
- B. Tertiary Plant (tons/year);
- C. Primary/Secondary Plant (tons/year);
- D. Chip Plant (tons/year).

ii. Material screened for each of the following operations;

- A. Flux Plant (tons/year);
- B. Tertiary Plant (tons/year);
- C. Primary/Secondary Plant (tons/year);
- D. Chip Plant (tons/year).

iii. Material throughput for the storage bins (tons/year).

iv. Data and calculations demonstrating annual emissions from the conveyors determined in accordance with Condition 3b of this permit for both PM₁₀ and PM emissions (tons/year).

If there have been no exceedances of permit or regulatory emission limitations during the prior calendar year, the Annual Emission Report shall include a statement to that effect.

14. The assembly of this plant at a new location will require a construction permit for the new location. This permit must be obtained prior to commencing construction at the new location.

It should be noted that this permit has been revised to include operation of the equipment described in Construction Permits 99120063, 00010024 and 00120069 and to reflect changes in the exiting equipment. This revision does not relax monitoring, recordkeeping, or reporting requirement contained in federally enforceable conditions of this permit. These permit conditions assure that this source would not be a major source for purposes of CAAPP.

It should be noted that the diesel fuel storage tanks are exempt from state permit requirements pursuant to 35 Ill. Adm. Code 201.145(n)(3).

If you have any questions on this permit, please call Valeriy Brodsky at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

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cc: Illinois EPA, FOS Region 1
Illinois EPA, Compliance Section
USEPA

Attachment A - Emissions Summary

This attachment provides a summary of the maximum emissions from the crushing facility operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. This is a maximum quantity of material processed by the source. The resulting maximum emissions are well below the levels (i.e., 100 tons/yr for particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀), at which this source would be considered a major source for purposes of the Clean Air Act Permit Program(CAAPP). Actual emissions from this source will be less than predicted in this summary to the extent that the quantity of material processed by the source and control measures used are more effective than that required in this permit. In cases where the PM₁₀ emissions are not defined, the PM₁₀ emissions are limited by PM emission limits. As a result of limiting PM emissions, the emissions of PM₁₀ are effectively limited to an equal or lesser quantity.

1. Emissions from the crushing facility are as follows:

a. **Flux Plant**

<u>Crushing Equipment</u>	Annual Throughput <u>(Tons/Year)</u>	E M I S S I O N S	
		<u>PM₁₀ (Tons/Year)</u>	<u>PM (Tons/Year)</u>
Crushing	2,160,000	0.64	1.34
Screening	2,160,000	0.91	1.91

b. **Tertiary Plant**

<u>Crushing Equipment</u>	Annual Throughput <u>(Tons/Year)</u>	E M I S S I O N S	
		<u>PM₁₀ (Tons/Year)</u>	<u>PM (Tons/Year)</u>
Crushing	5,760,000	1.70	3.57
Screening	31,680,000	13.31	27.95

c. **Primary/Secondary Plant**

<u>Crushing Equipment</u>	Annual Throughput <u>(Tons/Year)</u>	E M I S S I O N S	
		<u>PM₁₀ (Tons/Year)</u>	<u>PM (Tons/Year)</u>
Crushing	24,480,000	7.23	15.17
Screening	14,400,000	6.05	12.70

d. **Chip Plant**

<u>Crushing Equipment</u>	Annual Throughput <u>(Tons/Year)</u>	E M I S S I O N S	
		<u>PM₁₀ (Tons/Year)</u>	<u>PM (Tons/Year)</u>

	Crushing	5,760,000	1.70	3.57
	Screening	5,760,000	2.42	5.08
e.	Storage Bins	5,760,000	<u>0.29</u>	<u>0.61</u>
			34.69	72.81

2. Facility Wide Emissions from Conveying (See Permit Condition 4(b)) are limited to 11.9 tons of PM₁₀ per year and 25.00 tons of PM per year.
3. This permit is issued based on negligible emissions of particulate matter (PM) from the wash plant and sand plant. For this purpose emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr; as a result of limiting PM emissions, the emissions of PM₁₀ are effectively limited to an equal or lesser quantity.
4. PM₁₀ Contingency Plan:
 - a. Level I
 - i. Conduct regular documented inspections of control equipment.
 - ii. Increase application frequency of lignosulfonate road stabilizer to twice per month during summer months.
 - iii. Apply calcium chloride to the roads twice per month during the winter months, except in the case of snow on the roads.
 - iv. Use a second water truck two shifts per day (16 hours/day) on days of high winds (approximate guideline: average daily wind speed of 15 mph or more), except during freezing or wet conditions.
 - b. Level II
 - i. Initiate or continue Level I measures.
 - ii. Reduce speed limit from 30 mph to 25 mph.

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