



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

## DEPARTMENT OF NATURAL RESOURCES

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JUL 17 2013

Ms. Kimberly Lagomarsino  
Director - Environmental Affairs  
Mississippi Lime Company  
16147 U.S. Highway 61  
Ste. Genevieve, MO 63670

RE: New Source Review Temporary Permit Request - Project Number: 2013-06-073  
Installation ID Number: 186-0001  
Temporary Permit Number: **072013-007**  
Expiration Date: July 12, 2014

Dear Ms. Lagomarsino:

The Missouri Department of Natural Resources' Air Pollution Control Program has completed a review of your request to install two temporary limestone crushing operations at your lime production facility in Ste. Genevieve County (S29, T38N, R9E). The Air Pollution Control Program is hereby granting your request to conduct this temporary operation at this location in accordance with Missouri State Rule 10 CSR 10-6.060(3).

On June 20, 2013, your facility suffered a fire at your secondary crushing plant located in the limestone mine. The fire damaged the permitted secondary crushers, screens, and conveyor belts. While the damaged equipment is being repaired, the facility asked the Air Pollution Control Program's Compliance and Enforcement Section to allow the facility to bring in a small portable crushing and screening operation and place it outside the mine to supply crushed limestone to the plant. This request was submitted by the company on June 21, 2013, and approved by the Air Pollution Control Program on the same day. On June 25, 2013, the facility submitted another request to the Air Pollution Control Program to move the above mentioned portable crushing plant inside the mine (now referred to as "underground") and to allow another portable crushing plant, owned by Fred Weber, Inc. (PORT-0641), to operate at the site on the surface. This request was approved on June 26, 2013, provided that the facility applies for and receives a temporary permit from the Air Pollution Control Program by July 12, 2013, that includes both crushing operations.

The two crushing operations will be independent of each other and will be powered by a total of four diesel engines (one rated at 365 horsepower, one at 129 horsepower, and two at 49 horsepower). Although Fred Weber, Inc. owns one of the plants, the entire permit is issued under Mississippi Lime Company and Mississippi Lime Company will be responsible for ensuring compliance with the permit conditions. The underground plant has a maximum hourly design rate (MHDR) of 250 tons per hour while the Fred Weber crushing plant is rated at 500 tons per hour.

Ms. Kimberly Lagomarsino  
Page Two

Particulate emissions from the crushing, screening, and conveying equipment for both plants were calculated by using emission factors from Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition, Chapter 11.19.2, *Crushed Stone Processing and Pulverized Mineral Processing*, (8/2004). For the equipment in the mine, a 90% control efficiency was added to the uncontrolled emission factors for fine particulate matter (PM<sub>2.5</sub>), particulate matter less than ten microns in diameter (PM<sub>10</sub>) and particulate matter (PM) due to the high humidity and low air velocity inside. The 90% control efficiency for PM<sub>10</sub> was previously approved for use by the Air Pollution Control Program. The same control efficiency was used for PM<sub>2.5</sub> and PM because they are expected to have similar control efficiencies as PM<sub>10</sub>, according to AP-42, Chapter 11.19.2. The PM<sub>10</sub> efficiency was approved under the requirement that all of the equipment has to be located no less than 800 feet from the mine entrance. Therefore, that requirement is written as a special condition in this permit. After the limestone is crushed by the underground crushing plant, it will be loaded onto permitted conveyors in the mine to be transferred to the kilns. For equipment outside the mine, the controlled emission factors were used because spray bars or spray bar carryover will be utilized. The limestone will be brought out of the mine by truck, placed into a storage pile, and then loaded into the Fred Weber plant using a front-end loader.

Emissions from haul roads and vehicular activity areas were calculated using predictive equations from AP-42, Section 13.2.2, *Unpaved Roads*, (11/2006). Control efficiencies of 40%, 90%, and 90% are given for PM<sub>2.5</sub>, PM<sub>10</sub>, and PM, respectively. These are the default value used by the Air Pollution Control Program. A section of the haul road is in the mine while another section is outside the mine. When the mine was first permitted, the Air Pollution Control Program decided that Mississippi Line would not have to estimate emissions from haul roads inside the mine beyond 800 feet from the mine entrance. Therefore, only 800 feet were included in the emissions analysis for this project. The company will control emissions from the outside haul road using Best Management Practices (BMPs) while no control is required for the underground haul road due to the high humidity and low air velocity. The vehicular activity around the outside storage pile will also be controlled using BMPs. Particulate emissions from storage pile load-in and storage pile load-out were calculated using the predictive equation in AP-42, Chapter 13.2.4, *Aggregate Handling and Storage Piles*, (11/2006). A moisture content of 1.5 wt. % is used in the equations because of the high humidity in the mine. Particulate emissions from wind erosion were calculated using an equation developed by the EPA in 1989 as an alternative method to AP-42. This alternative method is the default used by the Air Pollution Control Program.

Emissions from the diesel engines were not calculated for this review. The engines are designed to be portable (i.e. equipped with wheels, skids, carrying handles, trailers, etc.) and will be at this site for less than 12 consecutive months. As a result, the engines can be considered nonroad in accordance with 40 CFR §89.2.

Table 1 below gives an emissions summary for this project. The existing potential and actual emissions are not determined (N/D) because the equipment is new at the site. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8,760 hours per year). The PM conditioned potential emissions are limited to 25.0 tons per year so that the facility does not have to apply for a Prevention of Significant Deterioration permit. With the PM limit, the PM<sub>10</sub> emissions would also be limited under the *de minimis* level of 15.0 tons per year.

**Table 1: Emissions Summary (tons per year)**

Air Pollutant	De Minimis Level/SMAL	Exsting Potential Emissions	Existing Actual Emissions (2012 EIQ)	Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	N/D	N/D	85.97	<25.0
PM <sub>10</sub>	15.0	N/D	N/D	33.41	9.74
PM <sub>2.5</sub>	10.0	N/D	N/D	9.01	2.70
SO <sub>x</sub>	40.0	N/D	N/D	N/A	N/A
NO <sub>x</sub>	40.0	N/D	N/D	N/A	N/A
VOC	40.0	N/D	N/D	N/A	N/A
CO	100.0	N/D	N/D	N/A	N/A
Total HAPs	25.0	N/D	N/D	N/A	N/A

N/A = Not Applicable; N/D = Not Determined

You are still obligated to meet all applicable air pollution control rules, Department of Natural Resources' rules, or any other applicable federal, state, or local agency regulations. Specifically, you should avoid violating 10 CSR 10-6.045 *Open Burning Requirements*, 10 CSR 10-6.220 *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.165 *Restriction of Emission of Odors*, and 10 CSR 10-6.170 *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*. Subpart 000 *Standards of Performance for Nonmetallic Mineral Processing Plants*, of the New Source Performance Standards (NSPS) applies to the above ground crushing plant, but not to the underground crushing plant.

A copy of this letter should be kept with the unit and be made available to Department of Natural Resources' personnel upon request. If you have any questions regarding this determination, please do not hesitate to contact Chia-Wei Young at the departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or by telephone at (573) 751-4817.

Sincerely,

AIR POLLUTION CONTROL PROGRAM



Kyra L. Moore  
Director

KLM:cyl

c: PAMS File: 2013-06-073  
Southeast Regional Office

Page No.	4
Permit No.	
Project No.	2013-06-073

**GENERAL SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

Site ID Number: 186-0001

Site Name: Mississippi Lime

Site Address: 16147 U.S. Highway 61

Site County: Ste. Genevieve (S29, T38N, R9E)

1. **Best Management Practices Requirement**  
Mississippi Lime Company shall control fugitive emissions from the outside haul road (TEMP HR 2) and outside vehicular activity area (TEMP SP1) used by the temporary crushers by performing Best Management Practices as defined in Attachment AA.
2. **Annual Emission Limit**
  - A. Mississippi Lime Company shall emit less than 25.0 tons of particulate matter (PM) in any 12-month period from the underground crushing operation and the Fred Weber crushing plant combined.
  - B. Mississippi Lime Company shall demonstrate compliance with Special Condition 2.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
3. **Wet Suppression Control System Requirement**
  - A. Mississippi Lime Company shall install and operate wet spray devices on all crushers (TEMP 6 and 14) and screen (TEMP 10) at Fred Weber's crushing plant (PORT-0641).
  - B. Watering may be suspended during periods of freezing condition, when use of the wet spray devices may damage the equipment. During these conditions, Mississippi Lime Company shall adjust the production rate to control emissions from these units. Mississippi Lime Company shall record a brief description of such events.
4. **Minimum Distance to the Mine Entrance**  
All equipment in the underground crushing operation (TEMP 1 through 5) shall be located no less than 800 feet from the mine entrance.

Page No.	5
Permit No.	
Project No.	2013-06-073

**GENERAL SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

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5. **Record Keeping Requirement**  
Mississippi Lime Company shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources' personnel upon request.
  
6. **Reporting Requirement**  
Mississippi Lime Company shall report to the Air Pollution Control Program's Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the limitations imposed by this permit.



## Construction Industry Fugitive Emissions

Construction Industry Sites covered by the Interim Relief Policy shall maintain Best Management Practices (BMPs) for fugitive emission areas at their installations when in operation. Options for BMPs are at least one of the following:

### For Haul Roads:

1. Pavement of Road Surfaces –
  - A. The operator(s) may pave all or any portion of the haul roads with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve "Control of Fugitive Emissions"<sup>1</sup> while the plant is operating.
  - B. Maintenance and/or repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the haul road(s) as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  
2. Usage of Chemical Dust Suppressants –
  - A. The operator(s) shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the unpaved portions of the haul roads. The suppressant will be applied in accordance with the manufacturer's suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  - B. The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator(s) shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator(s) shall keep these records with the plant for not less than five years, and the operator(s) shall make these records available to Department of Natural Resources' personnel upon request.
  
3. Usage of Documented Watering –
  - A. The operator(s) shall control the fugitive emissions from all the unpaved portions of the haul roads at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating. For example, the operator(s) shall calculate the total square feet of unpaved vehicle activity area requiring control on any particular day, divide that product by 1,000, and multiply the quotient by 100 gallons for that day.
  - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operation (e.g., meteorological situations, precipitation events, freezing, etc.)
  - C. Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
  - D. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads. The operator(s) shall record a brief description of such events in the same log as the documented watering.
  - E. The operator(s) shall record the date and the amount of water applied for each application on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.

<sup>1</sup> For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)

## Attachment AA: Best Management Practices Page 2 of 2

### For Vehicle Activity Areas around Open Storage Piles:

1. Pavement of Stockpile Vehicle Activity Surfaces –
  - A. The operator(s) may pave all or any portion of the vehicle activity areas around the storage piles with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve control of fugitive emissions while the plant is operating.
  - B. Maintenance and/or repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  
2. Usage of Chemical Dust Suppressants –
  - A. The operator(s) shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the vehicle activity areas around the open storage piles. The suppressant will be applied in accordance with the manufacturer's suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  - B. The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator(s) shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator(s) shall keep these records with the plant for not less than five years, and the operator(s) shall make these records available to Department of Natural Resources' personnel upon request.
  
3. Usage of Documented Watering –
  - A. The operator(s) shall control the fugitive emissions from all the vehicle activity areas around the storage piles at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating. (Refer to example for documented watering of haul roads.)
  - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operations (e.g., meteorological situations, precipitation events, freezing, etc.)
  - C. Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
  - D. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads. The operator(s) shall record a brief description of such events in the same log as the documented watering.
  - E. The operator(s) shall record the date and the amount of water applied for each application on the above areas. The operator(s) shall keep these records with the plant for not less than five years, and the operator(s) shall make these records available to Department of Natural Resources' personnel upon request.