

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

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

Permit Number: **06 2017 - 010** Project Number: 2017-03-058
Installation Number: 186-0001

Parent Company: Mississippi Lime Company

Parent Company Address: 3870 S. Lindbergh Blvd. Suite 200, St. Louis, MO 63127

Installation Name: Mississippi Lime Company

Installation Address: 16147 US Highway 61, Ste. Genevieve, MO 63670


Location Information: Ste. Genevieve County (S29/30, T38N, R9E)

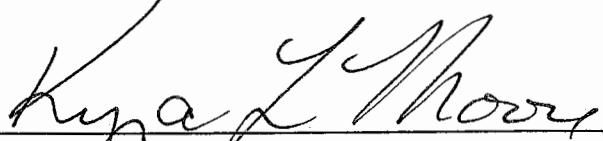
Application for Authority to Construct was made for:

The installation of a stationary crushing plant. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.


Prepared by
Ryan Schott
New Source Review Unit


Director or Designee
Department of Natural Resources

JUN 30 2017

Effective Date

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Enforcement and Compliance Section of the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of startup of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department's regional office responsible for the area within which you are located within 15 days after the actual startup of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit using the contact information below.

Contact Information:

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
<http://dnr.mo.gov/regions/>

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."

Mississippi Lime Company

Ste. Genevieve County (S29/30, T38N, R9E)

1. Operational Requirements

- A. Mississippi Lime Company shall operate this stationary crushing plant inside the underground mine no closer than 800 feet from the mine entrance.

- B. Mississippi Lime Company is prohibited from operating this stationary crushing plant whenever Fred Weber Inc.'s portable crushing plant (PORT-0681) is actively operating at this site for the duration of Permit No. 052012-004B, which expires April 15, 2018.

010 770800

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2017-03-058

Installation ID Number: 186-0001

Permit Number: **06 2 0 1 7 - 0 1 0**

Installation Address:

Mississippi Lime Company
16147 US Highway 61
Ste. Genevieve, MO 63670

Parent Company:

Mississippi Lime Company
3870 S. Lindbergh Blvd. Suite 200
St. Louis, MO 63127

Ste. Genevieve County (S29/30, T38N, R9E)

REVIEW SUMMARY

- Mississippi Lime Company has applied for authority to install a stationary crushing plant.
- The application was deemed complete on March 24, 2017.
- The only expected HAP emissions are the products of diesel combustion.
- 40 CFR 60, Subpart OOO – *Standards of Performance for Nonmetallic Mineral Processing Plants* does not apply to the equipment because the crushing plant is located in an underground mine.
- 40 CFR 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* applies to the diesel engines.
- 40 CFR 63, Subpart ZZZZ – *National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* applies to the diesel engines.
- No air pollution control equipment is being used in association with the equipment.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.
- This installation is located in Ste. Genevieve County, an attainment area for all criteria pollutants.
- This installation is on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation is classified as item number 11, *Lime plants*. The installation's major source level is 100 tons per year and fugitive emissions are counted toward major source applicability.

- Emissions testing is not required for the equipment as a part of this permit. Testing may be required as part of other state, federal, or applicable rules.
- The equipment in this permit shall be included in your Part 70 Operating Permit renewal application, due no later than December 23, 2017.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Mississippi Lime Company operates a lime processing plant in Ste. Genevieve, Missouri. Limestone is mined, crushed, kiln heated for calcination, hydrated, packaged, and shipped on site. The high calcium products are used in construction, environmental, food, and other markets. Mississippi Lime Company is a major source for particulate matter, SO_x, NO_x, VOCs, CO, and HAPs. The facility currently has a Part 70 Operating Permit (OP2013-035) that expires June 30, 2018.

The following New Source Review permits have been issued to Mississippi Lime Company from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
032016-005	Modification of stone screen and loadout system.
072015-011	New lime milling system and lime screening system.
082014-010	Temporary crushing operation.
042014-003	Temporary mine screening operation.
122013-009A	Amended emission calculations.
122013-009	A Section (5) permit issued on December 30, 2015 for the modification of three (3) existing kilns.
102013-009	Temporary portable crusher and screening operation.
072013-007	Temporary mine crushing operation.
112012-009B	Amended test conditions.
112012-009A	Amended two emission units and haul road at lime hydrating plant.
112012-009	A Section (5) permit issued on November 19, 2012 for a new lime hydrating plant.
082011-002	A Section (5) permit issued on July 5, 2011 for hydration process.
042010-010	A Section (5) permit issued on April 16, 2010 for a transfer loading station to transfer finished lime product to temporary storage.
042009-001	A Section (5) permit for new limestone crushing, screening, and conveying equipment for the underground mine
072004-012	Vertical kilns-(netting).
052003-045	A Section (5) permit issued on May 2, 2003, for a new lime hydrator.
122002-007	A Section (8) permit for two (2) new Rotary Lime Kilns.
102002-008	A Section (5) permit issued on October 7, 2002, for a lime handling system.
082002-004	A Section (5) permit issued on August 9, 2002, for a new railcar transloading system.

Permit Number	Description
092001-014	A Section (5) permit issued on September 19, 2001, for a new Vertical Kiln plant with supporting equipment.
112001-005	A Section (5) permit issued on November 6, 2001, for a new bagging operation.
052001-003	A Section (5) permit issued on May 4, 2001, to add two (2) additional hydrated lime storage silos, two (2) additional truck load out systems and one (1) additional rail load out system.
0999-009	A Section (3) Temporary Permit issued on September 14, 1999, to reclaim and remediate waste storage piles. Permit Expiration Date: July 31, 2001.
0799-015	A Section (5) permit issued on July 20, 1999, to revise Permit No. 0679-002 to account for increased potential emissions.
1198-020	A Section (5) permit issued on November 24, 1998, for a modification to the rotary kiln load out system.
0898-019	A Section (5) permit issued on August 17, 1998, for construction of a Maerz natural gas fired vertical lime kiln and ancillary equipment.
0198-006	A Section (5) permit issued on January 8, 1998, for the addition of a pneumatic conveying system from the Rotary Hydrate Plants No. 2 & No. 3 to Rotary Hydrate Plant No. 1.
0997-015	A Section (5) permit issued on September 11, 1997, for modifications to the lime handling and blending system at the Peerless Plant.
0897-035	A Section (5) permit issued on August 26, 1997, to amend Permit No. 0292-010A for a natural gas fired Maerz Vertical Lime Kiln to include an ancillary limestone feed and limestone processing system.
0897-018	A Section (5) permit issued on December 2, 1997, to replace an existing natural gas fired burner of the precipitated calcium carbonate system (MRPCC-2) with a larger burner.
0897-017	A Section (5) permit issued on August 20, 1997, for an underground limestone crushing operation.
0395-008	A Section (5) permit issued on February 10, 1995, to construct a new hydrate bulk bagging system.
0794-014	A Section (5) permit issued on July 20, 1994, to construct a Fuller pneumatic conveying system to convey precipitated calcium carbonate (PPC) from PPC Plant No. 1 to PPC Plant No. 2.
0292-010	A Section (5) permit issued on February 1, 1992, for the addition of a new natural gas fired Maerz Vertical Lime kiln.
1090-006	A Section (5) permit issued on October 11, 1990, for the addition of two (2) storage silos for lime hydrate.
0889-013	A Section (5) permit issued on August 30, 1989, to add a calcium carbonate slurry operation.
0588-008A	A Section (5) permit issued on May 31, 1988, for a milling operation.
1086-005A	A Section (5) permit issued on October 1, 1986, to construct a precipitated calcium carbonate plant (MRPCC-2).
0284-008A to 010A	A Section (5) permit issued on February 21, 1984, to construct a rotary hydrator (MRH-3).
0480-006	A Section (8) permit issued on April 1, 1980, to construct two (2) rotary lime kiln systems.
0679-002	A Section (5) permit issued on June 6, 1979, for various crushing, conveying, storage and loading equipment.

PROJECT DESCRIPTION

Mississippi Lime Company is proposing to install a stationary crushing plant to provide more flexibility in their existing stone feed system. Shot rock will be trucked to a [REDACTED] ton per hour primary crusher and screen system, with a [REDACTED] ton per hour secondary over-size crusher. Crushed rock will then be trucked to the kiln storage piles. The crushing plant will be located in Mississippi Lime Company's underground mine. The primary crusher will be powered by a [REDACTED] horsepower diesel engine [REDACTED]. The screen, secondary crusher, and conveyors will be powered by a [REDACTED] horsepower diesel generator set [REDACTED]. A complete list of project emission units is provided in Table 2.

Table 2. Emission Unit Summary

Emission Point	Description	MHDR (tons/hr)	Emission Point	Description	MHDR (tons/hr)
EP-1071	Hopper	[REDACTED]	EP-1077	Secondary Crusher	[REDACTED]
EP-1072	Primary Crusher	[REDACTED]	EP-1078	Conveyor	[REDACTED]
EP-1073	Conveyor	[REDACTED]	EP-1079	Conveyor	[REDACTED]
EP-1074	Screen	[REDACTED]	EP-1080	[REDACTED] hp Engine	[REDACTED]
EP-1075	Conveyors (4)	[REDACTED]	EP-1081	[REDACTED] hp Generator Set	[REDACTED]
EP-1076	Stackers (3)	[REDACTED]	EP-1082	Unloading to Pile	[REDACTED]

Mississippi Lime Company has requested to keep the design rates, emission factors, and control efficiencies of this project confidential per Missouri State Rules 10 CSR 10-6.210 *Confidential Information*. This is the public version of the permit. A confidential version is available under Project No. 2017-03-092.

EMISSIONS/CONTROLS EVALUATION

Particulate emissions from the crushing operations were calculated using emission factors taken from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition, Section 11.19.2 *Crushed Stone Processing and Pulverized Mineral Processing* (August 2004). A control efficiency of [REDACTED] for PM, PM₁₀, and PM_{2.5} was applied to the calculations due to the crushing equipment being located underground and at least 800 feet from the mine entrance, where it will be subject to high humidity and low air velocity.

Emissions from the diesel engines were calculated using emission factors taken from AP-42 Section 3.3 *Gasoline and Diesel Industrial Engines* (October 1996), AP-42 Section 3.4 *Large Stationary Diesel and All Stationary Dual-Fuel Engines* (October 1996), and 40 CFR §1039.

Particulate emissions from the mine haul road were not included in this evaluation because the haul road is located underground, at least 800 feet from the mine entrance. According to an Applicability Determination Request (Project No. 2007-08-060), it was determined that, "Mississippi Lime Company does not need to estimate emissions from haul roads inside the mine beyond 800 feet from the mine entrance."

The following table provides an emissions summary for this project. Existing potential emissions were taken from the installation's previous construction permit (032016-005). Existing actual emissions were taken from the installation's 2016 EIQ. Potential emissions of the project represent the potential of the new equipment, assuming continuous operation (8,760 hours per year).

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2015 EIQ)	Potential Emissions of the Project	New Installation Potential Emissions
PM	25.0	>250.0	N/D	14.64	>250.0
PM ₁₀	15.0	>250.0	1,165.96	8.42	>250.0
PM _{2.5}	10.0	>250.0	522.66	5.30	>250.0
SO _x	40.0	>250.0	2,746.97	3.21	>250.0
NO _x	40.0	>250.0	3,350.62	35.71	>250.0
VOC	40.0	>250.0	30.71	6.82	>250.0
CO	100.0	>250.0	11,192.17	39.15	>250.0
Total HAPs	25.0	>25.0	26.47	0.09	>25.0

N/D = Not Determined

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Mississippi Lime Company shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Operating Permits*, 10 CSR 10-6.065

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
 - Per 10 CSR 10-6.110(4)(B)2.A, a full EIQ is required annually.
- *Restriction of Emission of Odors*, 10 CSR 10-6.165
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220

SPECIFIC REQUIREMENTS

- *New Source Performance Regulations*, 10 CSR 10-6.070
 - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, 40 CFR 60, Subpart IIII
- *MACT Regulations*, 10 CSR 10-6.075
 - *National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 CFR 63, Subpart ZZZZ

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

PERMIT DOCUMENTS

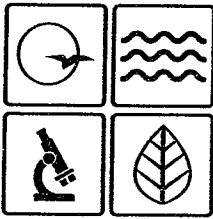
The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated March 8, 2017, received March 15, 2017, designating Mississippi Lime Company as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

%	percent	Mgal	1,000 gallons
°F	degrees Fahrenheit	MW	megawatt
acfm	actual cubic feet per minute	MHDR	maximum hourly design rate
BACT	Best Available Control Technology	MMBtu	Million British thermal units
BMPs	Best Management Practices	MMCF	million cubic feet
Btu	British thermal unit	MSDS	Material Safety Data Sheet
CAM	Compliance Assurance Monitoring	NAAQS	National Ambient Air Quality Standards
CAS	Chemical Abstracts Service	NESHAPs	National Emissions Standards for Hazardous Air Pollutants
CEMS	Continuous Emission Monitor System	NO_x	nitrogen oxides
CFR	Code of Federal Regulations	NSPS	New Source Performance Standards
CO	carbon monoxide	NSR	New Source Review
CO₂	carbon dioxide	PM	particulate matter
CO₂e	carbon dioxide equivalent	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
COMS	Continuous Opacity Monitoring System	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
CSR	Code of State Regulations	ppm	parts per million
dscf	dry standard cubic feet	PSD	Prevention of Significant Deterioration
EQ	Emission Inventory Questionnaire	PTE	potential to emit
EP	Emission Point	RACT	Reasonable Available Control Technology
EPA	Environmental Protection Agency	RAL	Risk Assessment Level
EU	Emission Unit	SCC	Source Classification Code
fps	feet per second	scfm	standard cubic feet per minute
ft	feet	SDS	Safety Data Sheet
GACT	Generally Available Control Technology	SIC	Standard Industrial Classification
GHG	Greenhouse Gas	SIP	State Implementation Plan
gpm	gallons per minute	SMAL	Screening Model Action Levels
gr	grains	SO_x	sulfur oxides
GWP	Global Warming Potential	SO₂	sulfur dioxide
HAP	Hazardous Air Pollutant	tph	tons per hour
hr	hour	tpy	tons per year
hp	horsepower	VMT	vehicle miles traveled
lb	pound	VOC	Volatile Organic Compound
lbs/hr	pounds per hour		
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		
m/s	meters per second		



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

JUN 30 2017

Mr. Jonathan Kennedy
Environmental & Regulatory Affairs Manager
Mississippi Lime Company
16147 US Highway 61
Ste. Genevieve, MO 63670

RE: New Source Review Permit - Project Number: 2017-03-058

Dear Mr. Kennedy:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.



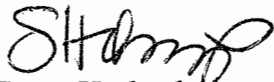
Recycled paper

Mr. Jonathan Kennedy
Page Two

If you have any questions regarding this permit, please do not hesitate to contact Ryan Schott at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM



Susan Heckenkamp
New Source Review Unit Chief

SH:rsj

Enclosures

c: Southeast Regional Office
PAMS File: 2017-03-058

Permit Number: **06 2017 - 010**