



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: 102011-014

Project Number: 2011-07-016

Installation ID: 031-0129

Parent Company: Delta Companies, Inc.

Parent Company Address: PO Box 880, Cape Girardeau, MO 63702

Installation Name: Southeast Missouri Stone Company

Installation Address: 2040 County Road 427, Oak Ridge, MO 63769

Location Information: Cape Girardeau County, S21, T33N, R12E

Application for Authority to Construct was made for:

The installation of a new generic rock crushing plant. This review was conducted in accordance with Section (6), 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.

OCT 25 2011

EFFECTIVE DATE

Wendy H. Moore

 DIRECTOR OR DESIGNEE DEPARTMENT
 OF NATURAL RESOURCES

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 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 Departments' Air Pollution Control Program of the anticipated date of start up 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 of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' 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 at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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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."

1. Generic Plant Designation and Maximum Combined Hourly Design Rate
Southeast Missouri Stone Co. has been designated to be a Generic Plant Operation. The combined Maximum Hourly Design Rate (MHDR) each of the following generic equipment types shall not exceed the rates and numbers listed in Table 1.

Table 1: Generic Equipment

Equipment Type	Maximum Combined Hourly Design Rate	Maximum Number of Units
Vibrating Grizzly Feeder	500 tons per hour	1
Primary Unit(s) (Primary Crusher)	500 tons per hour	1
Crushers (Including Primary Crusher)	1,500 tons per hour	3
Screens	1,000 tons per hour	2
Conveyor(s), Stacker(s), Bins	13,500 tons per hour	27
Diesel Engines Less Than 600 Horsepower (hp)	850 hp	3
Diesel Engines Greater Than 600 Horsepower (hp)	1,300 hp	

2. Generic Plant Equipment Identification Requirement
 - A. Southeast Missouri Stone Co. shall submit the following information to the Air Pollution Control Program's Permitting Section and the Southeast Regional Office within 15 days of actual startup.
 - 1) A master list of all equipment that will be permitted for use with the generic plant. This master list shall include at minimum the following information for each piece of equipment:
 - a) Manufacturer's name
 - b) Model number
 - c) Serial number
 - d) Actual MHDR
 - e) Date of manufacture
 - f) Any other additional information that is necessary to uniquely identify the equipment.
 - 2) A list of the core equipment that will always be utilized with the generic plant. The core equipment associated with the generic plant shall include at least one primary unit that controls the rate of the process flow (e.g., a primary crusher or primary screen).

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SPECIAL CONDITIONS:

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

- 3) A determination of the applicability of 40 CFR Part 60, Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" for each piece of equipment indicating whether each piece of equipment is subject to Subpart OOO and justification for this determination.
 - 4) Southeast Missouri Stone Co. shall notify the Air Pollution Control Program's Permitting Section and the Southeast Regional Office when new equipment is added to the master list and when core equipment is changed within 30 days of the change.
 - B. Southeast Missouri Stone Co. shall maintain a list of the specific equipment currently being utilized with the generic plant. Any arrangement of the generic plant's equipment must be such that the core equipment is not bypassed in the process flow.
3. **Equipment Identification Requirement**
Southeast Missouri Stone Co. shall maintain easily read permanent markings on each component of the plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component.
 4. **Best Management Practices Requirement**
Southeast Missouri Stone Co. shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing Best Management Practices as defined in Attachment AA.
 5. **Ambient Air Impact Limitation**
 - A. Southeast Missouri Stone Co. shall not process more than 5,912 tons per day of rock from the entire installation.
 - B. Southeast Missouri Stone Co. shall demonstrate compliance with special condition 5.A. using Attachment A or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms.
 6. **Annual Emission Limit**
 - A. Southeast Missouri Stone Co. shall emit less than 15.0 tons of particulate matter less than 10 microns in aerodynamic diameter (PM₁₀) in any twelve month period from the entire installation.
 - B. Southeast Missouri Stone Co. shall demonstrate compliance with Special Condition 6.A. using Attachment B or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms.

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SPECIAL CONDITIONS:

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

7. Wet Suppression Control System Requirement
 - A. Southeast Missouri Stone Co. shall install and operate wet spray devices on all crushers, screens and the first conveyor after each crushers and screens.
 - B. Watering may be suspended during periods of freezing conditions, when use of the wet spray devices may damage the equipment. During these conditions, Southeast Missouri Stone Co. shall adjust the production rate to control emissions from these units. Southeast Missouri Stone Co. shall record a brief description of such events.
8. Minimum Distance to Property Boundary Requirement
The primary emission point shall be located at least 450 feet from the nearest property boundary.
9. Concurrent Operation Restriction
Southeast Missouri Stone Co. is prohibited from operating whenever other plants are located at this site.
10. Primary Equipment Requirement
Southeast Missouri Stone Co. shall process all rock through the primary crusher. Bypassing the primary crusher is prohibited.
11. Diesel Engine/Generator Operations Requirement
The diesel engine/generator shall only be used to power equipment during production.
12. Record Keeping Requirement
Southeast Missouri Stone Co. 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.
13. Reporting Requirement
Southeast Missouri Stone Co. shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2011-07-016
Installation ID Number: 031-0129
Permit Number:

Southeast Missouri Stone Co.
2040 County Road 427
Oak Ridge, MO 63769

Complete: July 11, 2011

Parent Company:
Delta Companies, Inc.
PO Box 880
Cape Girardeau, MO 63702

Cape Girardeau County (S21, T33N, R12E)

PROJECT DESCRIPTION

Southeast Missouri Stone Co., owned and operated by Delta Companies, Inc., proposes to install a new generic rock crushing plant at Oak Ridge Quarry in Cape Girardeau County. The installation will have a maximum hourly design rate (MHDR) of 500 tons per hour (tph) and is permitted to operate a maximum of three crushers (1,500 tph combined MHDR), one vibrating grizzly feeder (500 tph combined MHDR), two screens (1,000 tph combined MHDR) and 27 conveyors/stackers/bins (13,500 tph combined MHDR). The installation is also permitted to operate a maximum of three (3) diesel engines/generators. The emission factors for engines greater than 600 horsepower (hp) and engines less than 600 hp are different. This project was evaluated using 1,300 hp for engines greater than 600 hp and 850 hp for engines less than 600 hp to give the facility its desired production level. Therefore, for diesel engines greater than 600 horsepower (hp), the facility is limited to a combined total of 1,300 hp, and for diesel engines less than 600 hp, the facility is limited to a combined total of 850 hp.

This installation is not permitted to operate concurrently with other plants at this site. A Basic Operating Permit is required for this installation within thirty (30) days of start of operations. The applicant will use one of the methods described in Attachment AA, "Best Management Practices," to control emissions from haul roads and vehicular activity areas.

This installation is located in Cape Girardeau County, an attainment area for all criteria pollutants. This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

TABLES

The table below summarizes the emissions of this project. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). The PM₁₀ conditioned potential emission is based on a limit to avoid dispersion modeling requirements found in Missouri State Rules 10 CSR 10-6.060, Section (6). Other pollutants proportionally reduced.

Table 1 Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	Existing Potential Emissions	Existing Actual Emissions (EIQ)	Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	N/A	N/A	256.38	35.26
PM ₁₀	15.0	N/A	N/A	107.94	<15.0
PM _{2.5}	10.0	N/A	N/A	38.07	5.09
SO _x	40.0	N/A	N/A	24.57	3.19
NO _x	40.0	N/A	N/A	251.76	32.67
VOC	40.0	N/A	N/A	13.13	1.70
CO	100.0	N/A	N/A	60.88	7.90
Total HAPs	25.0	N/A	N/A	0.17	0.02

Table 2: Ambient Air Quality Impact Analysis

Pollutant	^a NAAQS (µg/m ³)	Averaging Time	^b Maximum Modeled Impact (µg/m ³)	Limited Impact (µg/m ³)	Background (µg/m ³)	^c Daily Limit (tons/day)
^d PM ₁₀	150.0	24-hour	382.43	130.00	20.0	5,912

^aNational Ambient Air Quality Standards (NAAQS)

^bModeled impact at maximum capacity with controls

^cIndirect limit based on compliance with NAAQS.

^dSolitary operation only.

EMISSIONS CALCULATIONS

Emissions for the project were calculated using emission factors found in the United States Environmental Protection Agency (EPA) document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

Emissions from the rock-crushing equipment were calculated using emission factors from AP-42, Section 11.19.2, "Crushed Stone Processing and Pulverized Mineral Processing," August 2004. The controlled emission factors were used because the equipment is control by water spray devices. Emissions from the diesel engines/generators were calculated using emission factors from AP-42, Section 3.4, "Large Stationary Diesel and All Stationary Dual-fuel Engines," October 1996.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42, Section 13.2.2, "Unpaved Roads," November 2006. A 90% control efficiency is applied to the emission calculations for the use of Best Management Practices (BMPs). Emissions from load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4, "Aggregate Handling and Storage Piles," November 2006. The moisture content of the aggregate is 0.7% by weight. Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program's Emissions Inventory Questionnaire Form 2.8, "Storage Pile Worksheet."

AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of the pollutants listed in Table 2. The Air Pollution Control Program requires an AAQIA of PM₁₀ for all asphalt, concrete and rock crushing plants regardless of the level of PM₁₀ emissions if a permit is required. An AAQIA is required for other pollutants if their emissions exceed their respective *de minimis* or screening model action level (SMAL). The AAQIA was performed using the Air Pollution Control Program's generic nomographs and when appropriate, the EPA modeling software SCREEN3. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS) or Risk Assessment Level (RAL) for the pollutant. If during continuous operation the modeled concentration of a pollutant is greater than the applicable NAAQS or RAL, the plant's production is limited to ensure compliance with the standard. In cases where the plant is providing material for a highway project, the ambient impact is evaluated in accordance with a memorandum issued by the Air Pollution Control Program titled "Permitting Asphalt/Concrete Plants for Temporary Highway Projects," dated April 10, 2000. This memorandum states that air quality could be analyzed at the nearest residence or location where the public could reasonably expect to be found instead of all ambient air. This practice generally allows for a less restrictive daily production level while protecting the public.

This plant uses BMPs to control emissions from haul roads and vehicular activity areas, so emissions from these sources were not included in the AAQIA. Instead they were addressed as a background concentration of 20 µg/m³ of PM₁₀ in accordance with the Air Pollution Control Program's BMPs interim policy.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. The conditioned potential emissions of PM are above the *de minimis* level.

APPLICABLE REQUIREMENTS

Southeast Missouri Stone Co. 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

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- *Operating Permits*, 10 CSR 10-6.065
- *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
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- 40 CFR 60, Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" applies to the proposed equipment.
- 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 Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines" applies to the diesel engines.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) apply to the proposed equipment.
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Chia-Wei Young
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 5, 2011, received July 11, 2011, designating Delta Companies, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Attachment AA: Best Management Practices

Haul roads and vehicular activity areas shall be maintained in accordance with at least one of the following options when the portable plant is operating.

1. Pavement
 - A. The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions¹ while the plant is operating.
 - B. Maintenance and 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 shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

2. Application of Chemical Dust Suppressants
 - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
 - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacture's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator 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 shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources personnel upon request.

3. Application of Water-Documented Daily
 - A. The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
 - B. Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
 - C. 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.
 - D. The operator shall record the date, volume of water application and total surface area of active haul roads or the amount of precipitation that day. The operators shall also record the rational for not watering (e.g. freezing conditions or not operating).
 - E. The operator shall keep these records with the plant for not less than 5 years, and the operator shall make these records available to Department of Natural Resources personnel upon request

¹For 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.)

Mr. Jerry Neels
Environmental Manager
Southeast Missouri Stone Co.
PO Box 880
Cape Girardeau, MO 63702

RE: New Source Review Permit - Project Number: 2011-07-016

Dear Mr. Neels:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, 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 your 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.

If you have any questions regarding this permit, please do not hesitate to contact Chia-Wei Young, at the Department's 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

Kendall B. Hale
New Source Review Unit Chief

KBH:cyl

Enclosures

c: Southeast Regional Office
PAMS File: 2011-07-016

Permit Number: