STATE OF 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: 072012-005  Project Number: 2012-02-045
Installation ID: 099-0171

Parent Company: Central Stone Company
Parent Company Address: 1701 5th Ave., Moline, IL 61265
Installation Name: Morse Mill Quarry CS60
Installation Address: 10190 Hwy C, Hillsboro, MO 63050
Location Information: Jefferson County, S26 T41N R3E

Application for Authority to Construct was made for:
The installation of a new generic, stationary rock-crushing that is rated at 600 tons per hour. 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.

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

EFFECTIVE DATE

JUL 16 2012
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 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 of Natural Resources 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 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.
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
Morse Mill Quarry CS60 has been designated to be a stationary Generic Plant Operation. The combined Maximum Hourly Design Rate (MHDR) of each of the following generic equipment types shall not exceed the rates and numbers listed in Table 1.

Table 1: Generic Equipment

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Maximum Combined Hourly Design Rate</th>
<th>Maximum Number of Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Unit: Grizzly Feeder</td>
<td>600 tons per hour</td>
<td>1</td>
</tr>
<tr>
<td>Primary Crusher</td>
<td>375 tons per hour</td>
<td>1</td>
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<tr>
<td>Crushers including primary crusher</td>
<td>900 tons per hour</td>
<td>3</td>
</tr>
<tr>
<td>Conveyors and Stackers</td>
<td>17,500 tons per hour</td>
<td>50</td>
</tr>
<tr>
<td>Screens</td>
<td>1,850 tons per hour</td>
<td>4</td>
</tr>
<tr>
<td>Storage Bins</td>
<td>1,500 tons per hour</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Generic Plant Equipment Identification Requirement
A. Morse Mill Quarry CS60 shall submit the following information to the Air Pollution Control Program’s Permitting Section and the St. Louis 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).
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) Morse Mill Quarry CS60 shall notify the Air Pollution Control Program’s Permitting Section and the St. Louis Regional Office when new equipment is added to the master list and when core equipment is changed within 30 days of the change.

B. Morse Mill Quarry CS60 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
Morse Mill Quarry CS60 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 (BMPs) Requirement
Morse Mill Quarry CS60 shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing BMPs as defined in Attachment AA.

5. Ambient Air Impact Limitation
A. Morse Mill Quarry CS60 shall not cause an exceedance of the National Ambient Air Quality Standard for particulate matter less than ten microns in aerodynamic diameter (PM$_{10}$) of 150.0 µg/m$^3$ 24-hour average in ambient air.

B. Morse Mill Quarry CS60 shall demonstrate compliance with Special Condition 5.A using Attachment A, Attachment B or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms.

6. Annual Emission Limit
A. Morse Mill Quarry CS60 shall emit less than 15.0 tons of PM$_{10}$ in any consecutive 12-month period from the entire installation.

B. Morse Mill Quarry CS60 shall demonstrate compliance with Special Condition 6.A using Attachment C or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

7. Wet Suppression Control System Requirement
   A. Morse Mill Quarry CS60 shall install and operate wet spray devices on the primary crusher (EP-02).
   B. Watering may be suspended during periods of freezing condition, when use of the wet spray devices may damage the equipment. During these conditions, Morse Mill Quarry CS60 shall adjust the production rate to control emissions from these units. Morse Mill Quarry CS60 shall record a brief description of such events.

8. Moisture Content Testing Requirement
   A. Morse Mill Quarry CS60 shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent by weight.
   B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials D-2216, C-566 or another method approved by the Director.
   C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.
   D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).
   E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing the test. The report shall be filed on-site or at the Morse Mill Quarry CS60 main office within 30 days of completion of the required test.
   F. If the moisture content of either of the two tests is less than the moisture content in Special Condition 8.A, another test may be performed within 15 days of the noncompliant test. If the results of that test also exceed the limit, Morse Mill Quarry CS60 shall either:
      1) Apply for a new permit to account for the revised information, or
      2) Submit a plan for the installation of wet spray devices to the Air Pollution Control Program Compliance Assistance section within 10 days of the second noncompliant test. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
   G. In lieu of testing, Morse Mill Quarry CS60 may obtain test results that demonstrate compliance with the moisture content in Special Condition 8.A from the supplier of the aggregate.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

9. Minimum Distance to Property Boundary Requirement
   The primary emission point, the primary crusher (EP-02), shall be located at least
   300 feet from the nearest property boundary.

10. Nonroad Engine Requirement
    A. Morse Mill Quarry CS60 shall operate this plant’s internal combustion engine
       such that it meets the definition of nonroad per 40 CFR 89.2.
    B. Morse Mill Quarry CS60 shall keep records on site showing the date and reason
       for moving this engine.
    C. If this generator remains at a single location for more than 12 consecutive
       months it will be considered a stationary generator and the Central Stone
       Company shall add this generator to this installation's list of equipment by
       submitting an Application for Authority to Construct to the Air Pollution Control
       Program.

11. Primary Equipment Requirement
    Morse Mill Quarry CS60 shall process all rock through the grizzly feeder (EP-01).
    Bypassing the grizzly feeder is prohibited.

12. Record Keeping Requirement
    Morse Mill Quarry CS60 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
    Morse Mill Quarry CS60 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.
Morse Mill Quarry CS60 Complete: February 15, 2012
10190 Hwy C
Hillsboro, MO 63050

Parent Company:
Central Stone Company
1701 5th Ave.
Moline, IL 61265

Jefferson County, S26 T41N R3E

PROJECT DESCRIPTION

Morse Mill Quarry CS60, which is owned by the Central Stone Company, has requested authority to install a new generic, stationary rock-crushing that is rated at 600 tons per hour. The equipment of this plant includes: one grizzly feeder (the primary unit) with a maximum hourly design rate (MHDR) of 600 tons per hour (tph), one primary crusher with a MHDR of 375 tph and two other crushers with a combined MHDR of 525 tph, a total of 50 conveyors and stackers with a combined MHDR of 17,500 tph, four screens with a combined MHDR of 1,850 tph and four storage bins with a combined MHDR of 1,500 tph. The equipment of this plant is powered by one nonroad engine that is rated at 1,750 kilowatts. This is a pit crushing operation, and therefore, the rock-crushing plant moves along the face of the quarry. Per 40 CFR Part 89, to be considered a nonroad engine, the engine of this plant shall not remain at a single location for more than 12 consecutive months. If this generator remains at a single location for more than 12 consecutive months it will be considered a stationary generator and the Central Stone Company shall add this generator to this installation by submitting an Application for Authority to Construct to the Air Pollution Control Program.

The applicant is using 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 Jefferson County, a nonattainment area for the 8-hour ozone standard and the PM_{2.5} standard and an attainment area for all other criteria pollutants. Part of Jefferson County is a nonattainment area for lead. The installation is not located in the Jefferson County lead nonattainment area.
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.

No permits have been issued to Morse Mill Quarry CS60 from the Air Pollution Control Program. However, this rock-crushing plant was previously owned by Dry Creek Sand and Gravel (099-0137) and permitted under Permit 022002-014. This rock-crushing plant has been sold to the Central Stone Company and relocated at this site and is no longer associated with Dry Creek Sand and Gravel.

TABLES

The table below summarizes the emissions of this project. The potential emission of the process equipment excludes emissions from haul roads and wind erosion. The existing actual emissions were taken from the previous year’s Emissions Inventory Questionnaire (EIQ). The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation 8760 hours per year. The conditioned potential emissions are based on a voluntary particulate matter less than ten microns in aerodynamic diameter (PM\(_{10}\)) emissions limit to avoid modeling requirements.

Table 2: Emissions Summary (tons per year)

<table>
<thead>
<tr>
<th>Air Pollutant</th>
<th>De Minimis Level</th>
<th>aPotential Emissions of the Process Equipment</th>
<th>Existing Actual Emissions</th>
<th>bPotential Emissions of the Application</th>
<th>Conditioned Potential Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>25.0</td>
<td>34.70</td>
<td>N/A</td>
<td>109.99</td>
<td>39.95</td>
</tr>
<tr>
<td>PM10</td>
<td>15.0</td>
<td>12.80</td>
<td>N/A</td>
<td>40.34</td>
<td>&lt; 15.00</td>
</tr>
<tr>
<td>PM2.5</td>
<td>10.0</td>
<td>1.87</td>
<td>N/A</td>
<td>12.13</td>
<td>4.32</td>
</tr>
<tr>
<td>SOX</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</tr>
<tr>
<td>NOX</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>25.0</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

N/A = Not Applicable

aExcludes emissions from haul roads and wind erosion

bIncludes haul road and storage pile emissions
Table 3: Ambient Air Quality Impact Analysis

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>aNAAQS (µg/m³)</th>
<th>Averaging Time</th>
<th>bMaximum Modeled Impact (µg/m³)</th>
<th>Limited Impact (µg/m³)</th>
<th>cBackground (µg/m³)</th>
<th>dDaily Limit (tons/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$^{6}$PM$_{10}$ (Solitary)</td>
<td>150.0</td>
<td>24-hour</td>
<td>428.78</td>
<td>130.0</td>
<td>20.0</td>
<td>6,473</td>
</tr>
<tr>
<td>$^{1}$PM$_{10}$ (Same)</td>
<td>150.0</td>
<td>24-hour</td>
<td>N/A</td>
<td>130.0</td>
<td>20.0</td>
<td>N/A</td>
</tr>
<tr>
<td>$^{6}$PM$_{10}$ (Separate)</td>
<td>150.0</td>
<td>24-hour</td>
<td>N/A</td>
<td>96.41</td>
<td>53.59</td>
<td>4,800</td>
</tr>
</tbody>
</table>

N/A = Not Applicable

- **a**: National Ambient Air Quality Standards (NAAQS)
- **b**: Modeled impact of Morse Mill Quarry CS60 at maximum capacity with controls
- **c**: Background emissions include 20.0 µg/m³ to address emissions from haul roads and vehicular activity areas and 33.59 µg/m³ to address emissions from plants not owned by the Central Stone Company
- **d**: The daily production limit of Morse Mill Quarry CS60 is indirectly based on compliance with the NAAQS. However, the daily production limit of Morse Mill Quarry CS60 during the same owner operating scenario is not determined because the Central Stone Company can balance production between all plants they own and operate at this site.
- **e**: Operation without other plants
- **f**: Operation with other plants that are owned by the Central Stone Company
- **g**: Operation with other plants that are not owned by the Central Stone Company, or when other plants that are owned and not owned by the Central Stone Company

**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 inherent moisture content of the crushed rock is equal to or greater than 1.5 percent (%) by weight.

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. The moisture content of the aggregate is 1.5% 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.”
An ambient air quality impact analysis (AAQIA) was performed to determine the impact of the pollutants listed in Table 3. The Air Pollution Control Program requires an AAQIA of PM$_{10}$ for all asphalt, concrete and rock-crushing plants regardless of the level of PM$_{10}$ 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. The AAQIA was performed using the Air Pollution Control Program’s generic nomographs and when appropriate the EPA modeling software AERSCREEN. 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.

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 20.0 µg/m$^3$ of PM$_{10}$ in accordance with the Air Pollution Control Program’s BMPs interim policy.

**OPERATING SCENARIOS**

The following scenarios explain how Morse Mill Quarry CS60 shall demonstrate compliance with the NAAQS.

1. When no other plants are located at this site, which is referred to as solitary operation, the Central Stone Company must calculate the daily impact of this plant and limit its impact below the NAAQS using Attachment A.

2. When plants that are owned by the Central Stone Company, which are referred to as same owner plants, are located at the site, the Central Stone Company must calculate the daily impact of each plant and limit the total impact of all plants below the NAAQS using Attachment A.

3. When plants that are not owned by the Central Stone Company, which are referred to as separate owner plants, are located at the site, the Central Stone Company must account for the impacts of these plants as a background concentration and add it to the total impact of all plants owned by the Central Stone Company that are operating at the site. This total is limited below the NAAQS. The Central Stone Company will limit the total impact of all plants they own and operate at the site to 96.41 µg/m$^3$ when any plants they do not own are located at the site. Morse Mill Quarry CS60 is not permitted to operate with any plant that is not owned by the Central Stone Company that has a separate owner background greater than 33.59 µg/m$^3$. During this scenario, Morse Mill Quarry CS60 shall use Attachment B to demonstrate compliance with the NAAQS.
PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of PM$_{10}$ are conditioned below de minimis levels and potential emissions of PM are above the de minimis level, but below major source levels.

APPLICABLE REQUIREMENTS

Morse Mill Quarry CS60 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

- A Basic Operating Permit application is required for this installation within 30 days of equipment startup

- 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


- None of the National Emission Standards for Hazardous Air Pollutants or National Emission Standards for Hazardous Air Pollutants for Source Categories apply to the proposed equipment.
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.

________________________________   ________________________________
Daronn Williams Date
Environmental Engineer

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 13, 2012, received February 15, 2012, designating Central Stone Company as the owner and operator of the installation.

Attachment A: Ambient Impact Tracking Sheet
For Solitary and Same Owner Operations
Morse Mill Quarry CS60 (099-0171)
Project Number: 2012-02-045

Site Name: Morse Mill Quarry CS60
Site Address: 10190 Hwy C, Hillsboro, MO 63050
Site County: Jefferson County, S26 T41N R3E

This sheet covers the period from ______________ to ______________ (Copy as needed)
(Month, Day Year) (Month, Day Year)

<table>
<thead>
<tr>
<th>Date</th>
<th>Daily Production (tons)</th>
<th>Impact Factor (µg/m³/ton)</th>
<th>Impact1 (µg/m³)</th>
<th>Impact2 (µg/m³)</th>
<th>Back-</th>
<th>Total Impact3 (µg/m³)</th>
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</thead>
<tbody>
<tr>
<td>Example</td>
<td>4,988</td>
<td>0.0201</td>
<td>100.25</td>
<td>N/A</td>
<td>20.0</td>
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<td>0.0201</td>
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</table>

1. Calculate the impact for Morse Mill Quarry CS60 by multiplying the daily production by the impact factor.
2. Input the impact for any plants owned by Central Stone Company that are operating on the site.
3. Calculate the total impact by adding the applicable impacts and background. A total of 150.0 µg/m³ or less of PM₁₀ emission is necessary for compliance.
Attachment B: Ambient Impact Tracking Sheet
For Separate Owner Operation
Morse Mill Quarry CS60 (099-0171)
Project Number: 2012-02-045

Site Name: Morse Mill Quarry CS60
Site Address: 10190 Hwy C, Hillsboro, MO 63050
Site County: Jefferson County, S26 T41N R3E

This sheet covers the period from ____________________ to ____________________ (Copy as needed)
(Month, Day Year) (Month, Day Year)

<table>
<thead>
<tr>
<th>Date</th>
<th>Morse Mill Quarry CS60 099-0171</th>
<th>Same Owner Plant</th>
<th>Same Owner Plant</th>
<th>Separate Owner Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daily Production (tons)</td>
<td>Impact Factor (µg/m³/ton)</td>
<td>Impact (µg/m³)</td>
<td>Impact (µg/m³)</td>
</tr>
<tr>
<td>Example</td>
<td>4,577</td>
<td>0.0201</td>
<td>92.0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

- Calculate the impact for Morse Mill Quarry CS60 by multiplying the daily production by the impact factor.
- Input the impact for any plants owned by Central Stone Company that are operating on the site.
- Calculate the total impact by adding the applicable impacts and backgrounds. A total of 150.0 µg/m³ or less of PM₁₀ emission is necessary for compliance.
### PM\textsubscript{10} Annual Emissions Tracking Sheet

#### Morse Mill Quarry CS60 (099-0171)

**Project Number:** 2012-02-045

<table>
<thead>
<tr>
<th>Month</th>
<th>Production (tons)</th>
<th>Emission Factor (lb/ton)</th>
<th>Monthly Emissions(^1) (lbs)</th>
<th>Monthly Emissions(^2) (tons)</th>
<th>12-Month Total Emissions(^3) (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>155,844</td>
<td>0.0154</td>
<td>2,400</td>
<td>0.1</td>
<td>1.2</td>
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<tr>
<td>Example</td>
<td>135,000</td>
<td>0.0154</td>
<td>2,079</td>
<td>1.04</td>
<td>2.24</td>
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</tbody>
</table>

\(^1\) Multiply the monthly production by the emission factor.

\(^2\) Divide the monthly emissions (lbs) by 2000.

\(^3\) Add the monthly emissions (tons) to the sum of the monthly emissions from the previous eleven months. A total of less than 15.0 tons of PM\textsubscript{10} is necessary for compliance.
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 emissions\(^1\) 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 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 five (5) years, and the operator shall make these records available to Department of Natural Resources personnel upon request.

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\(^1\)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.)
Mr. Bob Savage  
Vice President  
Morse Mill Quarry CS60  
1701 5th Ave.  
Moline, IL 61265

RE: New Source Review Permit - Project Number: 2012-02-045

Dear Mr. Savage:

Enclosed with this letter is your permit to construct. Please study it carefully. 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 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.

A proposed test plan is also enclosed for the compliance to the testing requirements for 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants."

If you have any questions regarding this permit, please do not hesitate to contact Daronn Williams, 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

Susan Heckenkamp  
New Source Review Unit Chief  
SH:dwl

Enclosures

c: St. Louis Regional Office  
PAMS File: 2012-02-045

Permit Number: