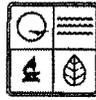


STATE OF MISSOURI



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: 102009-008

Project Number: 2009-06-040

Parent Company: Koss Construction Company

Parent Company Address: 5830 SW Drury Lane, Topeka, KS 66604

Installation Name: Koss Construction Co. - Buffalo

Installation ID: PORT-0638

Installation Address: US Hwy 65 & Kelly Rd, Buffalo, MO 65622

Location Information: Dallas County, S9, T33N, R20W

Application for Authority to Construct was made for:  
Installation of new portable concrete central batch 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 19 2009

EFFECTIVE DATE

*Steven J. Fisher for DNR*

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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Permit No.	
Project No.	2009-06-040

**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."*

1. **Portable Equipment Identification Requirement**  
Koss Construction Co. - PORT- 0638 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. These identification numbers must be submitted to the Air Pollution Control Program no later than 15 days after start-up of the portable rock crushing plant.
2. **Relocation of Portable Rock Crushing Plant**
  - A. Koss Construction Co. - PORT- 0638 shall not be operated at any location longer than 24 consecutive months.
  - B. A complete "Portable Source Relocation Request" application must be submitted to the Air Pollution Control Program prior to any relocation of this portable rock crushing plant.
    - 1.) If the portable rock crushing plant is moving to a site previously permitted, and if the circumstances at the site have not changed (e.g. the site was only permitted for solitary operation and now another plant is located at the site), then the application must be received by the Air Pollution Control Program at least seven days prior to the relocation.
    - 2.) If the portable rock crushing plant is moving to a new site, or if circumstances at the site have changed, then the application must be received by the Air Pollution Control Program at least 21 days prior to the relocation. The application must include written notification of any concurrently operating plants.
3. **Record Keeping Requirement**  
Koss Construction Co. - PORT- 0638 shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.

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Permit No.	
Project No.	2009-06-040

**SITE SPECIFIC 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."*

PORT ID Number: PORT-0638

Site ID Number: 059-0024

Site Name: Koss Construction Company

Site Address: US Hwy 65 & Kelly Rd Buffalo, MO 65622

Site County: Dallas S9, T33N, R20W

1. Best Management Practices Requirement  
Koss Construction Co. - PORT- 0638 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.
2. Ambient Air Impact Limitation
  - A. Koss Construction shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM<sub>10</sub>) of 150.0 µg/m<sup>3</sup> 24-hour average in ambient air.
  - B. Koss Construction 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. Koss Construction shall account for the impacts from other sources of PM<sub>10</sub> as instructed in Attachment A.
3. Annual NOx Emission Limit
  - A. Koss Construction shall emit less than 43.96 tons of NOx in any 12-month period from the entire installation while operating at this site.
  - B. Koss Construction shall demonstrate compliance with special condition 3.A using Attachment B or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form

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Permit No.	
Project No.	2009-06-040

**SITE SPECIFIC SPECIAL CONDITIONS:**

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

4. Moisture Content Testing Requirement
  - A. Koss Construction Co. - PORT- 0638 shall verify that the moisture content of the processes rock is greater than or equal to 1.5% weight.
  - B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.
  - C. The initial test shall be conducted at least 45 day 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 (e.g. quarry) of aggregate.
  - 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 Koss Construction Co. - PORT- 0638 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 4.A, another test may be performed with 15 days of the noncompliant test. If the results of that test also exceed the limit, Koss Construction Co. - PORT- 0638 shall either:
    - 1.) Apply for a new permit to account for the revised information, or
    - 2.) Submit a plant 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, Koss Construction Co. - PORT- 0638 may obtain test results of the supplier of the aggregate that demonstrate compliance with the moisture content in special condition 4.A.
5. Control Device Requirement-Baghouse
  - A. Koss Construction Co. - PORT- 0638 shall control emissions from the equipment listed below using baghouses as specified in the permit application.
    - 1.) Cement Silo
    - 2.) Supplement Silo
    - 3.) Weigh Hopper
    - 4.) Truck Mix Loadout (shroud vented to baghouse)

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Permit No.	
Project No.	2009-06-040

**SITE SPECIFIC SPECIAL CONDITIONS:**

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

- B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources employees may easily observe them.
  - C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
  - D. Koss Construction Co. - PORT- 0638 shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
  - E. Koss Construction Co. - PORT- 0638 shall maintain an operating and maintenance log for the baghouses and drum filters which shall include the following:
    - 1.) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
    - 2.) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
6. Minimum Distance to Property Boundary Requirement  
The primary emission point shall be located at least 600 feet from the nearest property boundary.
7. Concurrent Operation Restriction  
Koss Construction Co. - PORT- 0638 is prohibited from operating whenever other plants are located at the site.
8. Record Keeping Requirement  
Koss Construction Co. - PORT- 0638 shall maintain all records required by this permit for five years and make them available to any Missouri Department of Natural Resources personnel upon request.
9. Reporting Requirement  
Koss Construction Co. - PORT- 0638 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: 2009-06-040

Installation ID Number: PORT-0638

Permit Number:

Koss Construction Co. - Buffalo  
US Hwy 65 & Kelly Rd  
Buffalo, MO 65622

Complete: August 19, 2009

Parent Company:  
Koss Construction Company  
5830 SW Drury Lane  
Topeka, KS 66604

Dallas County, S9, T33N, R20W

PROJECT DESCRIPTION

This plant is a portable central-mix concrete batch plant with a maximum production capacity of 690 tons of concrete per hour. The plant's silos, weigh hopper and mixer are controlled by baghouses. The plant is powered by a 878 horsepower diesel generator. 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

The portable plant is moving to this site to complete highway project J8P0833. The portable plant will operate solitarily at the site.

## TABLES

Table 1 summarizes the emissions of this project. The potential emissions of process equipment excluding emissions from haul roads and wind erosion, which are site specific should not vary from site to site. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). The NO<sub>x</sub> Potential emission was conditioned to 43.96 in order for the NO<sub>x</sub> to comply with NO<sub>x</sub> Annual NAQQS limit of 100 µg/m<sup>3</sup>

Table 1: Emissions Summary (tons per year)

Pollutant	De Minimis Level/ SMAL	<sup>1</sup> Potential Emissions of Process Equipment	Existing Actual Emissions ( EIQ)	<sup>2</sup> Potential Emissions of the Application	Conditioned Potential Emissions
PM <sub>10</sub>	15.0	15.5	N/A	48.5	24.38
SO <sub>x</sub>	40.0	1.38	N/A	1.38	0.69
NO <sub>x</sub>	40.0	87.48	N/A	87.48	< 43.96
VOC	40.0	2.24	N/A	2.24	1.13
CO	100.0	23.24	N/A	23.24	11.68
Total HAPs	25.0	0.04	N/A	0.04	0.02

N/A = Not Applicable

<sup>1</sup>Excludes haul road and storage pile emissions

<sup>2</sup>Includes site specific haul road and storage pile emissions

<sup>3</sup>

Table 2 lists the NAAQS, the maximum ambient concentration, the limited ambient concentration, the corresponding daily production limit for each pollutant modeled and the impact factor.

Table 2: Ambient Air Quality Impact Analysis

Pollutant	<sup>1</sup> NAAQS/ RAL (µg/m <sup>3</sup> )	Averaging Time	<sup>2</sup> Maximum Modeled Impact (µg/m <sup>3</sup> )	Limited Impact (µg/m <sup>3</sup> )	Background (µg/m <sup>3</sup> )	<sup>3</sup> Daily Limit (tons/day)
<sup>4</sup> PM <sub>10</sub> Solitary	150.0	24-hour	204.9	130	20.0	11,207
NO <sub>x</sub>	100	Annual	214.18	100	N/A	N/A

<sup>1</sup>National Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

<sup>2</sup>Modeled impact at maximum capacity with controls

<sup>3</sup>Indirect limit based on compliance with NAAQS.

<sup>4</sup>Solitary operation

## 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 concrete batch plant were calculated using emission factors from AP-42

Section 11.12 "Concrete Batching," June 2006. This section cites Equation (1) in Section 13.2.4 "Aggregate Handling and Storage Piles," November 2006 for calculating the emissions from aggregate and sand transfer. The cement and supplement silos are controlled with baghouses, so the controlled emission factors were used. Emissions from the aggregate weigh hopper were calculated using AP-42 Section 13.2.4, Equation (1). These emissions are controlled by a baghouse so a 99% control factor was applied to the calculation.

Emissions from mixer loading are controlled by a shroud vented to a baghouse, so the controlled emission factor was used. Emissions from the diesel generator 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 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% 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 PM<sub>10</sub> and NO<sub>x</sub>. The Air Pollution Control Program requires an AAQIA for PM<sub>10</sub> for all concrete plants regardless of the level of PM<sub>10</sub> emissions if a permit is required. The AAQIA was performed using the Air Pollution Control Programs generic nomographs. The concentration of PM<sub>10</sub> that occurs at or beyond the site boundary, which is 150 feet from the plant, was compared to the National Ambient Air Quality Standard National Ambient Air Quality Standards (NAAQS). When the plant operates continuously, the modeled concentration of PM<sub>10</sub> and NO<sub>x</sub> are greater than the NAAQS, so the plant's production was limited to insure compliance with the NAAQS.

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/m<sup>3</sup> of PM<sub>10</sub> in accordance with the Air Pollution Control Programs 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*. Potential emissions of PM<sub>10</sub> are above de minimis levels.

## APPLICABLE REQUIREMENTS

Koss Construction Co. - PORT- 0638 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.

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110. The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- No Operating Permit is required for this installation.
- *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 10-3.090

### SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- 40 CFR 60 Subpart IIII, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" applies to the equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) 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.

---

Samer Al-Shoukhi  
Environmental Engineer

---

Date

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated June 10, 2009, received June 15, 2009, designating Koss Construction Company as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southwest Regional Office Site Survey, dated July 02, 2009.





## 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<sup>1</sup> 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 manufacturer'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 and volume of water application or the amount of precipitation that day. The operators shall also record the rationale 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

<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.)

Mr. Robert Kennedy  
Manager, Quality & Technical Services  
Koss Construction Co. - Buffalo  
5830 SW Drury Lane  
Topeka, KS 66604

RE: New Source Review Permit - Project Number: 2009-06-040

Dear Mr. Kennedy:

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 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 Samer Al-Shoukhi at the Departments' 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:sal

Enclosures

c: Southwest Regional Office  
PAMS File: 2009-06-040

Permit Number: