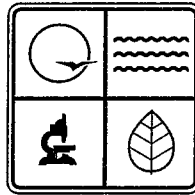


STATE OF MISSOURI

## 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: **03 2007 - 012** Project Number: 2006-09-054  
037-0007

Owner: APAC Kansas, Inc.

Owner's Address: 7355 West 162nd Terrace, P.O. Box 23910,  
Overland Park, KS 66283

Installation Name: APAC Kansas Wash Plant at Harrisonville

Installation Address: 19100 East 231st Street, Harrisonville, MO 64701

Location Information: Cass County, S17, T45N, R31W

Application for Authority to Construct was made for:

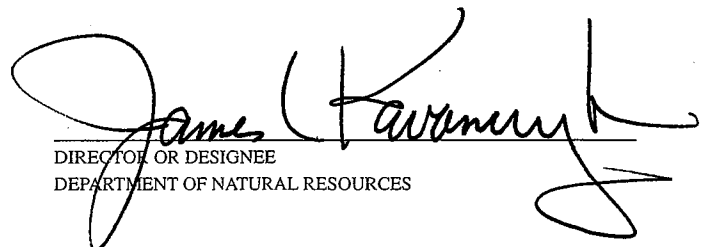
The modification of an existing stationary wash plant. The wash plant is a Generic Plant. Rock is processed through no more 1 sand screw(s), 3 conveyor(s), and 1 bin(s). The wash plant has a maximum hourly design rate (MHDR) of 100 tons per hour (tph). Best Management Practices will be used to control fugitive emissions from storage piles and haul roads 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 (listed as attachments starting on page 2) are applicable to this permit.

MAR 30 2007

EFFECTIVE DATE

  
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.** Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. 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 as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, 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 Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

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 Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

Page No.	2
Permit No.	
Project No.	2006-09-054

**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); by the Missouri Rules listed in Title 10, Division 10 of the Codes of State Regulations (specifically 10 CSR 10-6.060); by 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority"; by 10 CSR 10-6.010 "Ambient Air Quality Standards" and 10 CSR 10-6.060 subsections (5)(D) and (6)(A); and by control measures requested by the applicant, in their permit application, to reduce the amount of air pollutants being emitted, in accordance with 10 CSR 10-6.060 paragraph (6)(E)3. Furthermore, one or more of the Subparts of 40 CFR Part 60, New Source Performance Standards (NSPS), applies to this installation.*

1. Generic Plant Designation and Maximum Combined Hourly Design Rate  
APAC Kansas Wash Plant at Harrisonville's stationary wash plant (037-0007) has been designated to be a Generic Plant Operation. The combined Maximum Hourly Design Rate (MHDR) for the primary unit(s) and each of the following generic equipment types shall not exceed the maximum installation capacities listed below at any time the installation is in operation.

Equipment Type	Maximum Combined Hourly Design Rate	Maximum Number of Units
Bin(s)	100 tons per hour	1
Conveyor(s)	300 tons per hour	3
Sand Screw(s)	100 tons per hour	1

2. Generic Plant Equipment Identification Requirement
  - A. Within fifteen (15) days of actual startup, APAC Kansas Wash Plant at Harrisonville shall submit to the Air Pollution Control Program's (APCP) Permitting Section, and the Kansas City Regional Office, the following information for the generic plant (037-0007):
    - 1.) A Master List of all equipment that will be permitted for use with the generic plant (037-0007). This master list shall include the following information for each piece of equipment. The manufacturer's name, the model number, the serial number, the actual MHDR, the date of manufacture, any company-assigned equipment number, and any other additional information such as sizes and/or dimensions that is necessary to uniquely identify all of the equipment.
    - 2.) A list of the core equipment that will always be utilized with the generic plant (037-0007). The core equipment associated with the generic plant shall include at least one (1) primary unit. Core equipment items are rate-controlling components of the process flow (e.g., primary crusher and/or primary screen). The maximum hourly design rate of the generic plant is defined to be the sum of the MHDR(s) of the core equipment. Any arrangement of the generic plant's equipment must be such that the core equipment is not bypassed in the process flow.
    - 3.) A determination on the applicability of 40 CFR Part 60, Subpart "OOO", *Standards of Performance for Nonmetallic Mineral Processing Plants*, for each piece of equipment. APAC Kansas Wash Plant at Harrisonville shall indicate whether or not each piece of equipment is subject to Subpart "OOO" and provide the justification for this applicability determination.
    - 4.) APAC Kansas Wash Plant at Harrisonville shall submit notification to the APCP and the Regional Office if the core equipment is changed and/or if new equipment is added to the supplemental equipment list.
  - B. To assure that each piece of equipment is properly identified as being a part of this generic stationary wash plant(037-0007), APAC Kansas Wash Plant at Harrisonville shall provide and maintain suitable, 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 APCP and the Regional Office no later than fifteen (15) days after start-up of the generic plant.
  - C. APAC Kansas Wash Plant at Harrisonville shall at all times maintain a list of the specific equipment currently being utilized with the generic stationary wash plant (037-0007). The installation shall immediately make this list of currently used equipment available to any Missouri Department of Natural Resources' personnel upon request.

Page No.	2
Permit No.	
Project No.	2006-09-054

**GENERAL SPECIAL CONDITIONS:**

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

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3. Record Keeping Requirement

The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

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Permit No.	
Project No.	2006-09-054

**SPECIAL CONDITIONS:**

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

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Site ID No.: 037-0007  
Site Name: APAC Kansas - Harrisonville Site  
Site Address: 19100 East 231st Street, Harrisonville, MO 64701  
Site County: Cass County, S17, T45N, R31W

1. Best Management Practices  
APAC Kansas Wash Plant at Harrisonville shall control fugitive emissions from all of the haul roads and stockpiles at this site by performing *Best Management Practices*, which include the usage of paving, chemical dust suppressants, or documented watering. These practices are defined in Attachment AA.
2. Annual Emission Limit of Particulate Matter Less Than Ten Microns in Diameter (PM<sub>10</sub>)
  - A. The operator(s) shall ensure that APAC Kansas Wash Plant at Harrisonville emits less than 15 tons of PM<sub>10</sub> into the atmosphere in any 12-month period.
  - B. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed and PM<sub>10</sub>. Attachment A, *Monthly PM<sub>10</sub> Emissions Tracking Record*, or other equivalent form(s), will be used for this purpose.
3. Usage of Sand Screw (materials washer)
  - A. APAC Kansas Wash Plant at Harrisonville shall operate Sand Screws (materials washer) to restrict the emission of particulate matter. This Sand Screw must be used to control fugitive emissions whenever the following units are in operation:
    - 1.) Radial Stacker
4. Restriction on Process Configuration of Primary Emission Point(s)  
The maximum hourly design rate of the plant is equal to the sum of the design rate(s) of the primary emission point(s). APAC Kansas Wash Plant at Harrisonville has designated the following unit(s) as the primary emission point(s) of the wash plant: Load into Bin. Bypassing the primary emission point(s) for processing is prohibited.
5. Restriction on Minimum Distance to Nearest Property Boundary  
The primary emission point of the wash plant, which is the Load into Bin, shall be located at least 530 feet from the nearest property boundary whenever it is operating at this site.
6. Record Keeping Requirement  
The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
7. Reporting Requirement  
The operator(s) shall report to the Air Pollution Control Program (APCP) Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedances of the limitations imposed by this permit.
8. Superseding Condition  
The conditions of this permit supersede all special conditions found in the previously issued construction permit(s) (102005-010) from the Air Pollution Control Program.

# TECHNICAL REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT

## **PROJECT DESCRIPTION**

APAC Kansas Wash Plant at Harrisonville voluntarily requested and accepted a less than 15 tons PM<sub>10</sub> emission limit from the entire installation.

This permit will be superseding the all special conditions found in the previously issued construction permit(s) (102005-010).

Wash Plant processed through Load into bin, conveyor(s), sand screw(s), and radial stacker. Processing equipment is powered with diesel engine(s). The emission points are listed in the attached spreadsheet summary. This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2]. The installation is located in Cass County, an attainment area for all criteria air pollutants. The wash plant is far enough from plant #1 (stationary rock crushing plant), Plant #2 (stationary asphalt plant) and Plant # 3 (Concrete plant), and has insignificant µg/m<sup>3</sup> ambient impact; and therefore was not included in (plant 1,2 and 3) ambient impact evaluation and was evaluated as single operation with 130 µg/m<sup>3</sup> evaluation.

**Table 1. Other Permits Issued for APAC Kansas wash plant at Harrisonville**

Permit Number	Completed	Description
032000-008	N/A	Wash Plant
102005-010	10-18-2005	Section 6 permit

## **EMISSIONS EVALUATION**

Criteria air pollutants will be emitted from this operation. The main air pollutant of concern is PM<sub>10</sub>. The potential emissions were calculated from the maximum hourly design rate (MHDR) of the equipment, appropriate emission factors, control device efficiencies, and the limiting operating hours at MHDR. The sources of the emission factors and control efficiencies are listed in the section "Permit Documents". Based on the conditioned potential emissions, the operation is considered a De Minimis source under 10 CSR 10-6.060 section (5).

**Table 2: Emissions Summary (tons per year)**

Air Pollutant	Regulatory De Minimis Levels	* Existing Potential Emissions	Existing Actual Emissions (year EIQ)	Potential Emissions of the Application	**New Installation Conditioned Potential	Emission Factor (lb/ton)
PM <sub>10</sub>	15.0	46.91	N/A	46.91	<15	0.1071
SO <sub>x</sub>	40.0	7.49	N/A	7.49	2.39	N/A
NO <sub>x</sub>	40.0	59.33	N/A	59.33	18.96	N/A
VOC	40.0	1.52	N/A	1.52	0.49	N/A
CO	100.0	15.76	N/A	15.76	5.04	N/A
HAPs	10.0/25.0	0.03	N/A	0.03	0.01	N/A

Note: N/A = Not Applicable

\*Existing potential emissions taken from permit # 102005-010

\*\* Conditioned potential based on voluntarily limit of less than 15 tons of PM<sub>10</sub> daily production limit from ambient impact analysis. Other pollutants proportionately reduced.

## **AMBIENT AIR QUALITY IMPACT ANALYSIS**

Screening tools were used to evaluate the ambient air impact of the hourly emissions from this operation. The ambient impact was evaluated at a distance of 530 feet to the nearest property boundary. The ambient impact at this site shall not exceed the National Ambient Air Quality Standard (NAAQS) of 150 µg/m<sup>3</sup> of PM<sub>10</sub> at or beyond the nearest property boundary in any single 24-hour period. The screening tools were used to develop an ambient impact factor for the wash plant

For sources agreeing to use Best Management Practices (BMPs), as defined in Attachment AA, haul roads and stockpiles are not modeled with screening tools. Instead, they are addressed as a background level of 20 µg/m<sup>3</sup> of PM<sub>10</sub>. To ensure conformity with NAAQS, the remaining process emissions are limited to an impact of less than 130 µg/m<sup>3</sup> of PM<sub>10</sub> at or beyond the nearest property boundary.

**Table 3: Ambient Air Quality Impact Analysis of PM<sub>10</sub>, 24-Hour Averaging Time**

Operation	Ambient Impact Factor (µg/m <sup>3</sup> /ton)	Modeled Impact (µg/m <sup>3</sup> )	*Background (µg/m <sup>3</sup> )	NAAQS (µg/m <sup>3</sup> )	Daily Production Limit (tons)
1. Solitary	0.0221	53.12	20.00	150.00	N/A

\* Background PM<sup>10</sup> level of 20.00 µg/m<sup>3</sup> from haul roads and stockpiles

**APPLICABLE REQUIREMENTS**

The owner is subject to compliance with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements.

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *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
- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- The National Emission Standards for Hazardous Air Pollutants (NESHAPs) and the currently promulgated Maximum Achievable Control Technology (MACT) regulations do not apply to the proposed equipment.

**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*, 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, designating APAC Kansas, Inc. as the owner and operator of the installation.
- Environmental Protection Agency (EPA) AP-42, *Compilation of Air Pollutant Emission Factors; Volume I, Stationary Point and Area Sources, Fifth Edition*.
- Noyes Data Corp. book, Orlemann, et al.1983, *Fugitive Dust Control*.
- EPA Factor Information Retrieval (FIRE) Version 6.21.
- Spreadsheet calculations of potential-to-emit and ambient impact.
- Kansas City Regional Office Site Survey.
- Best Management Practices
- Add any additional source material here, (e.g., stack testing, etc.)





## Attachment AA: Best Management Practices (BMPs)- Construction Industry Fugitive Emissions

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

### For Haul Roads:

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

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

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

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

Mr. Dan Jones  
EHS Manager  
APAC Kansas, Inc.  
PO Box 23910  
Overland Park , KS 66283

RE: New Source Review Permit - Project Number: 2006-09-054

Dear Mr. Jones:

Enclosed with this letter is your New Source Review permit. Please review your permit carefully and note the special conditions, if any, and the requirements in your permit.

Operation in accordance with the conditions and requirements in your permit and the New Source Review application, submitted for project 2006-09-054, is necessary for continued compliance. The section of the permit entitled "Technical Review of Application for Authority to Construct" should not be separated from the main portion of your permit. The entire permit must be retained in your files. 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

The section of the permit entitled "Technical Review of Application for Authority to Construct" should not be separated from the main portion of your permit. The entire permit must be retained in your files. 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.

Should you have any questions, please contact me at (573) 751-4817, or write to the Department of Natural Resources' Air Pollution Control Program, PO Box 176, Jefferson City, MO 65102. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KH: sak

Enclosures

c: Kansas City Regional Office  
PAMS File 2006-09-054

Permit Number: