



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

TO: Interested Parties / Applicant

DATE: September 24, 2008

RE: Babcock Paving / 073-26569-00041

FROM: Matthew Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

## Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures  
FNPER.dot12/03/07



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## New Source Construction and Federally Enforceable State Operating Permit OFFICE OF AIR QUALITY

**Babcock Paving, Inc.**  
**6049 Work Street**  
**Demotte, Indiana 46310**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

**The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.**

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-8-11.1, applicable to those conditions

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F073-26569-00041	
Original signed by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: September 24, 2008  Expiration Date: September 24, 2013

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## SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-8-3(b)]

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The Permittee owns and operates a stationary drum hot and cold mix asphalt plant.

Source Address:	6049 Work Street, Demotte, Indiana 46310
Mailing Address:	P.O. Box 729, Demotte, IN 46310
General Source Phone Number:	219-987-5450
SIC Code:	2951
County Location:	Jasper
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) Drum Mix Asphalt Plant, approved for construction in 2008, consisting of the following:
  - (1) One (1) drum mixer and one (1) aggregate rotary dryer/burner, identified as emission unit EU1, with a maximum capacity of 225 tons of asphalt per hour. The dryer is equipped with one (1) natural gas-fired burner with a maximum rated capacity of 75 MMBtu per hour, using No. 2 distillate fuel oil and re-refined waste oil as backup fuels, and one (1) jet-pulse baghouse for particulate control, exhausting through stack S1.  
  
Under NSPS subpart I, this is considered an affected hot-mix asphalt facility.
- (b) Material Handling and conveying operations, approved for construction in 2008, consisting of the following:
  - (1) Three (3) feeder conveyors.
  - (2) One (1) screen deck.
  - (3) One (1) Cold Mix Feed system consisting of five (5) compartments, each with a capacity of 30 (thirty) tons, with a total aggregate holding capacity of 150 tons.

- (4) One (1) Recycled Asphalt Pavement (RAP) system, identified as RC1, consisting of a RAP Bin, Shaker, and Conveyor, with a capacity of 214 tons per hour.
  - (5) One (1) Aggregate Bucket Elevator.
  - (6) One (1) Transfer Drag Slat to silo.
  - (7) Two (2) Hot Mix Asphalt storage silos, each with a maximum capacity of 100 tons.
  - (8) One (1) Aggregate Storage Area, with a maximum storage capacity of 35,000 tons.
- (c) Two (2) liquid asphalt storage tanks, identified as Tank A and Tank B, each with a maximum storage capacity of 25,000 gallons, respectively.
  - (d) One (1) hot oil heater, burning natural gas or No. 2 fuel, rated at 1.25 million British thermal units per hour (MMBtu/hr), exhausting through stack S4.
  - (e) Two (2) fuel storage tanks, identified as Tank C and Tank D, each with a maximum storage capacity of 15,000 gallons.
- (b) Insignificant activities consisting of the following:
    - (1) Paved and unpaved roads with limited public access [326 IAC 6-4]

A.4 FESOP Applicability [326 IAC 2-8-2]

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This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).

## **SECTION B GENERAL CONDITIONS**

### **B.1 Definitions [326 IAC 2-8-1]**

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Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

### **B.2 Revocation of Permits [326 IAC 2-1.1-9(5)]**

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Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

### **B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4][326 IAC 2-8]**

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This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 and [326 IAC 2-8] when prior to the start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.
- (c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

### **B.4 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]**

- 
- (a) This permit, F073-26569-00041, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
  - (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

### **B.5 Term of Conditions [326 IAC 2-1.1-9.5]**

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Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

### **B.6 Enforceability [326 IAC 2-8-6]**

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Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

**B.7 Severability [326 IAC 2-8-4(4)]**

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The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

**B.8 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]**

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This permit does not convey any property rights of any sort or any exclusive privilege.

**B.9 Duty to Provide Information [326 IAC 2-8-4(5)(E)]**

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- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

**B.10 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]**

---

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

**B.11 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]**

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- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) The annual compliance certification report shall include the following:

- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
- (2) The compliance status;
- (3) Whether compliance was continuous or intermittent;
- (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
- (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.12 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.13 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

**B.14 Emergency Provisions [326 IAC 2-8-12]**

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- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
  - (2) The permitted facility was at the time being properly operated;
  - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
  - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or  
Telephone Number: 317-233-0178 (ask for Compliance Section)  
Facsimile Number: 317-233-6865

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
  - (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
  - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
    - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
    - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.
- (h) Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.
- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

**B.15 Prior Permits Superseded [326 IAC 2-1.1-9.5]**

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- (a) All terms and conditions of permits established prior to F073-26569-00041 and issued pursuant to permitting programs approved into the state implementation plan have been either:
  - (1) incorporated as originally stated,
  - (2) revised, or
  - (3) deleted.

- (b) All previous registrations and permits are superseded by this permit.

**B.16 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]**

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The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

**B.17 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]**

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- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

**B.18 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]**

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- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
  - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
  - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30)

days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

**B.19 Permit Renewal [326 IAC 2-8-3(h)]**

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- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
  - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

**B.20 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]**

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- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.21 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:
- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
  - (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
  - (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
  - (4) The Permittee notifies the:  
  
Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
  
and  
  
United States Environmental Protection Agency, Region V  
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590  
  
in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and
  - (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, for public review.  
  
Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).
- (b) Emission Trades [326 IAC 2-8-15(c)]  
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]  
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

**B.22 Source Modification Requirement [326 IAC 2-8-11.1]**

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A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

**B.23 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]**

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Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

**B.24 Transfer of Ownership or Operational Control [326 IAC 2-8-10]**

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- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.25 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.26 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

### Emission Limitations and Standards [326 IAC 2-8-4(1)]

#### C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

#### C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) The potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period. This limitation shall make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) not applicable.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

#### C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]

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The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

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The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

C.6 Fugitive Dust Emissions [326 IAC 6-4]

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The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

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Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on May 20, 2008. The plan is included as Attachment A.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
  - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
  - (2) If there is a change in the following:
    - (A) Asbestos removal or demolition start date;
    - (B) Removal or demolition contractor; or
    - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management  
Asbestos Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-52 IGCN 1003  
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) **Procedures for Asbestos Emission Control**  
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**  
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

### **Testing Requirements [326 IAC 2-8-4(3)]**

#### **C.9 Performance Testing [326 IAC 3-6]**

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- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

### **Compliance Requirements [326 IAC 2-1.1-11]**

#### **C.10 Compliance Requirements [326 IAC 2-1.1-11]**

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The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

### **Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]**

#### **C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]**

---

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

#### **C.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]**

---

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

#### **C.13 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]**

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- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

### **Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]**

#### **C.14 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]**

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Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

within 180 days from the date on which this source commences operation.

The ERP does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

#### **C.15 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]**

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If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

#### **C.16 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]**

---

(a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or

- (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records; and/or
  - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
  - (1) monitoring data;
  - (2) monitor performance data, if applicable; and
  - (3) corrective actions taken.

**C.17 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]**

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

**Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]**

**C.18 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]**

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

**C.19 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]**

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- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

**Stratospheric Ozone Protection**

**C.20 Compliance with 40 CFR 82 and 326 IAC 22-1**

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Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description: Hot Mix Asphalt Plant

(a) One (1) Drum Mix Asphalt Plant, approved for construction in 2008, consisting of the following:

- (1) One (1) drum mixer and one (1) aggregate rotary dryer/burner, identified as emission unit EU1, with a maximum capacity of 225 tons of asphalt per hour. The dryer is equipped with one (1) natural gas-fired burner with a maximum rated capacity of 75 MMBtu per hour, using No. 2 distillate fuel oil and re-refined waste oil as backup fuels, and one (1) jet-pulse baghouse for particulate control, exhausting through stack S1.

Under NSPS subpart I, this is considered an affected hot-mix asphalt facility.

(b) Material Handling and conveying operations, approved for construction in 2008, consisting of the following:

- (1) Three (3) feeder conveyors.
- (2) One (1) screen deck.
- (3) One (1) Cold Mix Feed system consisting of five (5) compartments, each with a capacity of 30 (thirty) tons, with a total aggregate holding capacity of 150 tons.
- (4) One (1) Recycled Asphalt Pavement (RAP) system, identified as RC1, consisting of a RAP Bin, Shaker, and Conveyor, with a capacity of 214 tons per hour.
- (5) One (1) Aggregate Bucket Elevator.
- (6) One (1) Transfer Drag Slat to silo.
- (7) Two (2) Hot Mix Asphalt storage silos, each with a maximum capacity of 100 tons.
- (8) One (1) Aggregate Storage Area, with a maximum storage capacity of 35,000 tons.

(c) Two (2) liquid asphalt storage tanks, identified as Tank A and Tank B, each with a maximum storage capacity of 25,000 gallons, respectively.

(d) One (1) hot oil heater, burning natural gas or No. 2 fuel, rated at 1.25 million British thermal units per hour (MMBtu/hr), exhausting through stack S4.

(e) Two (2) fuel storage tanks, identified as Tank C and Tank D, each with a maximum storage capacity of 15,000 gallons.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-8-4(1)]

#### D.1.1 Particulate Matter (PM) and PM 2.5 [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

- (a) The amount of asphalt processed shall not exceed nine hundred seventy-five thousand (975,000) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (b) The PM emissions from the dryer/mixer shall not exceed 0.380 pounds per ton of asphalt processed.
- (v) The PM 2.5 emissions from the dryer/mixer shall not exceed 0.380 pounds per ton of asphalt processed.

Compliance with these limitations, combined with the limited potential to emit from other emission units at this source, shall limit the source-wide total potential to emit PM and PM 2.5 to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (PSD) not applicable.

D.1.2 Dryer and Mixer FESOP Limits [326 IAC 2-8-4][326 IAC 2-2]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

- (a) The amount of asphalt processed shall not exceed nine hundred seventy-five thousand (975,000) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM<sub>10</sub> emissions from the dryer/mixer shall not exceed 0.160 pounds per ton of asphalt processed.
- (c) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.
- (d) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.
- (e) The SO<sub>2</sub> emissions from the dryer/mixer shall not exceed 0.058 pounds per ton of asphalt processed.
- (f) The NO<sub>x</sub> emissions from the dryer/mixer shall not exceed 0.055 pounds per ton of asphalt processed.

Compliance with these limitations, combined with the limited PTE from other emission units at this source, shall limit the source-wide total potential to emit PM<sub>10</sub>, CO, VOC, SO<sub>2</sub> and NO<sub>x</sub> to less than 100 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70) and 326 IAC 2-2 (PSD) not applicable.

D.1.3 Fuel Limitations [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following fuel limitations combusted in the dryer/mixer burner and heater:

- (a) Sulfur Content and Waste Oil Specifications
  - (i) The sulfur content of No. 2 distillate fuel oil shall not exceed 0.50 percent by weight.
  - (ii) The sulfur content of the used waste oil shall not exceed 0.75 percent by weight.
- (b) Single Fuel Usage Limitations:

When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner and heater, the usage of fuel shall be limited as follows:

  - (1) Natural gas usage shall not exceed 1,785 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (2) No. 2 distillate fuel oil usage shall not exceed 2,072,102 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (3) Waste oil usage shall not exceed 1,475,374 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month,

(c) Multiple Fuel Usage Limitation:

When combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner and heater, the sum of the fuel usage shall be limited such that the NO<sub>x</sub>, SO<sub>2</sub>, CO emissions are limited as follows:

- (i) NO<sub>x</sub> emissions from the dryer/mixer and all other combustion equipment shall be less than 100 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

$$N = \frac{G(E_G) + O(E_o) + F(E_F)}{2,000 \text{ lbs/ton}}$$

where:

N = tons of nitrogen oxide emissions for a 12-month consecutive period

G = million cubic feet of natural gas used in the last 12 months

O = gallons of No. 2 fuel oil used in the last 12 months

F = gallons of used/waste oil used in the last 12 months

E<sub>G</sub> = 100 lb/million cubic feet of natural gas

E<sub>o</sub> = 20 pounds/1000 gallons of No. 2 fuel oil

E<sub>F</sub> = 19 pounds/1000 gallons of used/waste oil

- (ii) SO<sub>2</sub> emissions from the dryer/mixer and all other combustion equipment shall be less than 100 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

$$S = \frac{G(E_G) + O(E_o) + F(E_F)}{2,000 \text{ lbs/ton}}$$

where:

S = tons of sulfur dioxide emissions for 12-month consecutive period

G = million cubic feet of natural gas used in last 12 months

O = gallons of No. 2 fuel oil used in last 12 months with less than or equal to 0.5% sulfur content

F = gallons of used/waste oil used in last 12 months with less than or equal to 0.75% sulfur content

E<sub>G</sub> = 0.6 pounds/million cubic feet of natural gas

E<sub>o</sub> = 71 pounds/1000 gallons of No. 2 fuel oil

E<sub>F</sub> = 110.3 pounds/1000 gallons of used/waste oil

- (iii) CO emissions from the dryer/mixer and all other combustion equipment shall be less than 100 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

$$C = \frac{G(E_G) + O(E_o) + F(E_F)}{2,000 \text{ lbs/ton}}$$

where:

- C = tons of carbon monoxide emissions for 12-month consecutive period
- G = million cubic feet of natural gas used in last 12 months
- O = gallons of No. 2 fuel oil used in last 12 months with less than or equal to 0.5% sulfur content
- F = gallons of used/waste oil used in last 12 months with less than or equal to 0.75% sulfur content
- E<sub>G</sub> = 84 pounds/million cubic feet of natural gas
- E<sub>O</sub> = 5 pounds/1000 gallons of No. 2 fuel oil
- E<sub>F</sub> = 5 pounds/1000 gallons of No. used/waste oil

(d) HCL

When combusting waste or used fuel per twelve (12) consecutive month period in the dryer/mixer burner and all other combustion equipment, the waste or used oil shall not exceed 0.947% ash, 0.200% chlorine and 0.0089% lead.

Compliance with these limits, combined with the limited potential emissions from all other emission units at this source, shall limit the source-wide total potential to emit NO<sub>x</sub>, SO<sub>2</sub> and CO to less than 100 tons per 12 consecutive month period, each, HCL to less than 10 tons per 12 consecutive month period, and any combination of HAPs to less than 25 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (PSD), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

D.1.4 Volatile Organic Compounds (VOC) [326 IAC 2-8-4][326 IAC 2-2]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

(a) Single Type of Binder Used

When using only one type of binder per twelve (12) consecutive month period in the cold mix product plant, the binder usage shall be limited as follows:

- (i) Cutback asphalt rapid cure liquid binder usage shall not exceed 55.3 tons of VOC solvent per twelve consecutive month period with compliance determined at the end of each month.
- (ii) Cutback asphalt medium cure liquid binder usage shall not exceed 75.0 tons of VOC solvent per twelve consecutive month period with compliance determined at the end of each month.
- (iii) Cutback asphalt slow cure liquid binder usage shall not exceed 210.0 tons of VOC solvent per twelve consecutive month period with compliance determined at the end of each month.
- (iv) Emulsified asphalt with solvent liquid binder usage shall not exceed 113.1 tons of VOC solvent per twelve consecutive month period with compliance determined at the end of each month.
- (v) Other asphalt with solvent liquid binder usage shall not exceed 2100 tons of VOC solvent per twelve consecutive month period with compliance determined at the end of each month.

(b) Multiple Types of Binder Used

When more than one type of binder is used, the VOC emissions from each type of binder shall be determined as follows such that the total VOC emissions from all the binders shall not exceed 52.5 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

$$\text{VOC} = \sum (\text{VOC solvent used for each binder tons/year}) * (\% \text{VOC evaporation})$$

Type of Liquid Binder	VOC Evaporation
Cutback Asphalt Rapid Cure	95.0%
Cutback Asphalt Medium Cure	70.0%
Cutback Asphalt Slow Cure	25.0%
Emulsified Asphalt with Liquid Binder	46.4%
Other Asphalt with Liquid Binder	2.5%

Compliance with these limits, combined with the VOC emissions from other units at this source, shall limit the source-wide VOC emissions to less than 100 tons per year and shall render 326 IAC 2-7 (Part 70 Program) and 326 IAC 2-2 (PSD) not applicable.

**D.1.5 Volatile Organic Compounds [326 IAC 8-5-2]**

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Pursuant to 326 IAC 8-5-2, the Permittee shall use cutback asphalt or asphalt emulsion containing seven percent (7%) or less of oil distillate by volume of emulsion for any paving application except the following purposes:

- (1) penetrating prime coating
- (2) stockpile storage
- (3) application during the months of November, December, January, February and March.
- (4) Any change or modification which adds the use of cold mix asphalt, requires prior IDEM, OAQ approval.

**D.1.6 Preventive Maintenance Plan [326 IAC 2-8-4(9)]**

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the RAP crushing, screening, and conveying operations and their control device(s), and for the dryer and drum mixer unit and its control device.

**Compliance Determination Requirements**

**D.1.7 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]**

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In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM 2.5 and PM 10 testing for baghouse (BH1) within one hundred and eighty (180) days of publication of the new or revised condensable PM test method(s) referenced in the U.S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM2.5), signed on May 8th, 2008. This testing shall be conducted utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM 10 and PM 2.5 includes filterable and condensable PM.

**D.1.8 Particulate Control**

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- (a) In order to comply with Conditions D.1.1 and D.1.2, the baghouse for the dryer/mixer shall be in operation and control emissions from the dryer/mixer at all times when the dryer/mixer is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

#### D.1.9 Sulfur Dioxide (SO<sub>2</sub>) Emissions and Sulfur Content

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Compliance with the sulfur dioxide emissions and sulfur content limitations in Condition D.1.3(a)(i) and (ii) and D.1.3(c)(ii) shall be determined utilizing one of the following options:

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate compliance with sulfur dioxide emissions and sulfur content limitations by:
  - (1) Providing vendor analysis of heat content and sulfur content of fuel delivered, if accompanied by a vendor certification; or
  - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
    - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
    - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the dryer/mixer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

#### **Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]**

##### D.1.10 Visible Emissions Notations

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- (a) Visible emission notations of each of the conveyors, screens, material transfer points, and drum mixer and dryer/burner stack (S1) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

##### D.1.11 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

---

- (a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the drum mixer and dryer/burner at least once per day when the drum mixer and dryer/burner is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response

steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

- (b) The instruments used for determining the pressure and temperature shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

#### D.1.12 Broken or Failed Bag Detection

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- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, or dust traces.

### **Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

#### D.1.13 Record Keeping Requirements

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- (a) To document compliance with Conditions D.1.1 and D.1.2 and D.1.4 the Permittee shall keep records of the amount of asphalt processed through the drum mixer and dryer/burner on a monthly basis. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.
- (b) To document compliance with Conditions D.1.3 and D.1.4, the Permittee shall maintain records in accordance with (1) through (7) below.
  - (1) Calendar dates covered in the compliance determination period;
  - (2) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide emission rates for each fuel used at the source per month;
  - (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

If the fuel supplier certification is used to demonstrate compliance, the following, as a minimum, shall be maintained:

- (5) Fuel supplier certifications;
- (6) The name of the fuel supplier; and
- (7) A statement from the fuel supplier that certifies the sulfur content of the No. 2 distillate fuel oil and used waste oil.

The Permittee shall maintain records of all recording/monitoring data and support information in accordance with Section C - General Record Keeping Requirements, of this permit. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (c) To document compliance with Conditions D.1.3(c) and D.1.8 when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner and hot oil heating system, the Permittee shall maintain records of actual fuel usage, and equivalent nitrogen oxides and sulfur dioxide emission rates for each fuel used at the source per month.
- (d) To document compliance with Condition D.1.10, the Permittee shall maintain daily records of the visible emission notations from each of the conveyors, screens, material transfer points, and dryer/mixer stack (S1) exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the plant did not operate that day).
- (e) To document compliance with Condition D.1.11, the Permittee shall maintain the following:
  - Daily records of the pressure drop across the baghouse controlling the dryer/mixer. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g., the dryer/mixer did not operate that day).
- (f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.1.14 Reporting Requirements

- (a) A quarterly summary of the information to document compliance with Conditions D.1.1, D.1.2(a), D.1.2(b), D.1.2(c), D.1.3(b), D.1.3(c), D.1.4, and D.1.8 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

**SECTION D.2**

**EMISSIONS UNIT OPERATION CONDITIONS**

**Emissions Unit Description:** Insignificant Activities

- (a) Paved roads with limited public access [326 IAC 6-4].

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-8-4(1)]**

**D.2.1 PM and PM10 Emissions [326 IAC 2-8-4] [326 IAC 6-5]**

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Pursuant to 326 IAC 2-8 and 326 IAC 6-5, the Permittee shall control PM and PM10 emissions from paved and unpaved roads according to the fugitive dust plan submitted on May 20, 2008, which is included in Section A - Asphalt Plant Site Fugitive Dust Control Plan, of this permit.

## SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description: Hot-Mix Asphalt Plant

- (a) One (1) Drum Mix Asphalt Plant, approved for construction in 2008, consisting of the following:
- (1) one (1) aggregate rotary dryer and drum hot-mix unit (dryer/mixer), identified as emission unit EU1, with a maximum capacity of 225 tons per hour, equipped with one (1) natural gas-fired dryer burner with a maximum rated capacity of 75 MMBtu per hour using No. 2 distillate fuel oil and re-refined waste oil as backup fuels, and one (1) jet-pulse baghouse for air pollution control, exhausting at one (1) stack, identified as S1.

Under NSPS subpart I, this is considered an affected hot-mix asphalt facility.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

### New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

#### E.1.1 NSPS Subpart I Requirements - Standards of Performance for Hot Mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12-1]

Pursuant to CFR Part 60, Subpart I, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart I, which are incorporated by reference as 326 IAC 12-1 for the asphalt plant as specified as follows. Pursuant to 40 CFR 60.90(a), the affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

#### § 60.90 *Applicability and designation of affected facility.*

- (a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.
- (b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.  
[42 FR 37936, July 25, 1977, as amended at 51 FR 12325, Apr. 10, 1986]

#### § 60.91 *Definitions.*

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

- (a) *Hot mix asphalt facility* means any facility, as described in §60.90, used to manufacture hot mix asphalt by heating and drying and mixing with asphalt cements.  
[51 FR 12325, Apr. 10, 1986]

#### § 60.92 *Standard for particulate matter.*

- (a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:
- (1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).
  - (2) Exhibit 20 percent opacity, or greater.

[39 FR 9314, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]

§ 60.93 *Test methods and procedures.*

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in §60.92 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).

(2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

[54 FR 6667, Feb. 14, 1989]

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
CERTIFICATION**

Source Name: Babcock Paving, Inc.  
Source Address: 6049 Work Street, Demotte, Indiana 46310  
Mailing Address: P.O. Box 729, Demotte, IN 46310  
FESOP Permit No.: F073-26569-00041

**This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.**

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)\_\_\_\_\_
- Report (specify)\_\_\_\_\_
- Notification (specify)\_\_\_\_\_
- Affidavit (specify)\_\_\_\_\_
- Other (specify)\_\_\_\_\_

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
Phone: 317-233-0178  
Fax: 317-233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
EMERGENCY OCCURRENCE REPORT**

Source Name: Babcock Paving, Inc.  
Source Address: 6049 Work Street, Demotte, Indiana 46310  
Mailing Address: P.O. Box 729, Demotte, IN 46310  
FESOP Permit No.: F073-26569-00041

**This form consists of 2 pages**

**Page 1 of 2**

- |   |
|---|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none"><li>• The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and</li><li>• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16</li></ul> |
|---|

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency?    Y    N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO <sub>2</sub> , VOC, NO <sub>x</sub> , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF AIR QUALITY  
 COMPLIANCE DATA SECTION**

**FESOP Quarterly Report**

Source Name: Babcock Paving, Inc.  
 Source Address: 6049 Work Street, Demotte, Indiana 46310  
 Mailing Address: P.O. Box 729, Demotte, IN 46310  
 FESOP Permit No.: F073-26569-00041  
 Facility: Dryer/Burner (EU1)  
 Parameter: Hot mix asphalt production  
 Limit: The amount of hot mix asphalt produced in the dryer/burner shall not exceed 975,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	Hot Mix Asphalt Produced This Month (tons)	Hot Mix Asphalt Produced Previous 11 Months (tons)	12 Month Total Hot Mix Asphalt Produced (tons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this month.
- Deviation/s occurred in this month.  
 Deviation has been reported on \_\_\_\_\_

Submitted by: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Fuel Quarterly Report**

**Page 1 of 2**

Source Name: Babcock Paving, Inc.  
Source Address: 6049 Work Street, Demotte, Indiana 46310  
Mailing Address: P.O. Box 729, Demotte, IN 46310  
FESOP Permit No.: F073-26569-00041  
Facility: One (1) dryer/mixer  
Parameters: Nitrogen Oxides (NOx) and Sulfur Dioxide (SO<sub>2</sub>) Emissions

Limit: Nitrogen oxides (NOx) emissions shall be less than 100 tons per twelve (12) consecutive month period based on the following equation:

$$N = \frac{G(E_G) + O(E_O) + F(E_F)}{2,000 \text{ lbs/ton}}$$

where: N = tons of nitrogen oxide emissions for a 12-month consecutive period  
G = million cubic feet of natural gas used in the last 12 months  
F = gallons of No. 2 fuel oil used for last 12 months  
E<sub>G</sub> = 100 lb/million cubic feet of natural gas  
E<sub>O</sub> = 20 pounds/1000 gallons of No. 2 fuel oil  
E<sub>F</sub> = 19 pounds/1000 gallons of used/waste oil

Limit: Sulfur dioxide (SO<sub>2</sub>) emissions shall be less than 100 tons per twelve (12) consecutive month period based on the following equation:

$$S = \frac{G(E_G) + O(E_O) + F(E_F)}{2,000 \text{ lbs/ton}}$$

where: S = tons of sulfur dioxide emissions for 12-month consecutive period  
G = million cubic feet of natural gas used in last 12 months  
F = gallons of No. 2 fuel oil used in last 12 months with less than or equal to 0.5% sulfur content  
E<sub>G</sub> = 0.6 pounds/million cubic feet of natural gas  
E<sub>O</sub> = 71 pounds/1000 gallons of No. 2 fuel oil  
E<sub>F</sub> = 110.3 pounds/1000 gallons of used/waste oil

Limit: CO emissions shall be less than 100 tons per twelve (12) consecutive month period, Based on the following equation:.

$$C = \frac{G(E_G) + O(E_O) + F(E_F)}{2,000 \text{ lbs/ton}}$$

where:  
C = tons of carbon monoxide emissions for 12-month consecutive period  
G = million cubic feet of natural gas used in last 12 months  
O = gallons of No. 2 fuel oil used in last 12 months with less than or equal to 0.5% sulfur content  
F = gallons of used/waste oil used in last 12 months with less than or equal to 0.75% sulfur content  
E<sub>G</sub> = 84 pounds/million cubic feet of natural gas  
E<sub>O</sub> = 5 pounds/1000 gallons of No. 2 fuel oil  
E<sub>F</sub> = 5 pounds/1000 gallons of No. used/waste oil

**Multiple Fuel Quarterly Report**

QUARTER: \_\_\_\_\_ YEAR: \_\_\_\_\_

		Column 1	Column 2	Column 1 + Column 2	Equation Results
Month	Fuel Types (units)	Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	Emissions (tons per 12 months)
Month 1	Natural Gas (million cubic feet)				Nitrogen Oxides = Sulfur Dioxide = CO =
	No. 2 Fuel Oil (gallons)				
	Used/waste oil (gallons)				
Month 2	Natural Gas (million cubic feet)				Nitrogen Oxides = Sulfur Dioxide = CO =
	No. 2 Fuel Oil (gallons)				
	Used/waste oil (gallons)				
Month 3	Natural Gas (million cubic feet)				Nitrogen Oxides = Sulfur Dioxide = CO =
	No. 2 Fuel Oil (gallons)				
	Used/waste oil (gallons)				

- No deviation occurred in this reporting period. Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_
- Deviation/s occurred in this reporting period. Title / Position: \_\_\_\_\_ Phone: \_\_\_\_\_
- Deviation has been reported on: \_\_\_\_\_ Signature: \_\_\_\_\_

Attach a signed certification to complete this report.

**Multiple Type of Binders Quarterly Report**

QUARTER: \_\_\_\_\_ YEAR: \_\_\_\_\_

		Column 1	Column 2	Column 1 + Column 2	Equation Results
Month	Fuel Types (units)	Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	Emissions (tons per 12 months)
Month 1	Cutback asphalt rapid cure liquid binder (million cubic feet)				VOC =
	Cutback asphalt medium cure liquid binder (gallons)				
	Cutback asphalt slow cure liquid binder (gallons)				
	Emulsified asphalt with solvent liquid binder				
	Other asphalt with solvent liquid binder				
Month 2	Cutback asphalt rapid cure liquid binder (million cubic feet)				VOC =
	Cutback asphalt medium cure liquid binder (gallons)				
	Cutback asphalt slow cure liquid binder (gallons)				
	Emulsified asphalt with solvent liquid binder				
	Other asphalt with solvent liquid binder				
Month 3	Cutback asphalt rapid cure liquid binder (million cubic feet)				VOC =
	Cutback asphalt medium cure liquid binder (gallons)				
	Cutback asphalt slow cure liquid binder (gallons)				
	Emulsified asphalt with solvent liquid binder				
	Other asphalt with solvent liquid binder				

- No deviation occurred in this reporting period.
- Deviation/s occurred in this reporting period.  
 Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Title / Position: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Signature: \_\_\_\_\_

Attach a signed certification to complete this report.

$$VOC = \sum (VOC \text{ solvent used for each binder tons/year}) * (\%VOC \text{ evaporation})$$

Type of Liquid Binder	VOC Evaporation
Cutback Asphalt Rapid Cure	95.0%
Cutback Asphalt Medium Cure	70.0%
Cutback Asphalt Slow Cure	25.0%
Emulsified Asphalt with Liquid Binder	46.4%
Other Asphalt with Liquid Binder	2.5%

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF AIR QUALITY  
 COMPLIANCE DATA SECTION  
 FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Babcock Paving, Inc.  
 Source Address: 6049 Work Street, Demotte, Indiana 46310  
 Mailing Address: P.O. Box 729, Demotte, IN 46310  
 FESOP Permit No.: F073-26569-00041

Months: \_\_\_\_\_ to \_\_\_\_\_ Year: \_\_\_\_\_

Page 1 of 2

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked ΔNo deviations occurred this reporting period@.</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

Form Completed by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

Mail to: Permit Administration & Development Section  
Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

Babcock Paving, Inc.  
6049 Work Street  
Demotte, Indiana 46310

Affidavit of Construction

I, \_\_\_\_\_, being duly sworn upon my oath, depose and say:  
(Name of the Authorized Representative)

1. I live in \_\_\_\_\_ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of \_\_\_\_\_ for \_\_\_\_\_.  
(Title) (Company Name)

3. By virtue of my position with \_\_\_\_\_, I have personal  
(Company Name)  
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of \_\_\_\_\_.  
(Company Name)

4. I hereby certify that Babcock Paving, Inc. 6049 Work Street, Demotte, Indiana 46310, completed construction of the hot mix asphalt plant on \_\_\_\_\_ in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on May 20, 2008, and as permitted pursuant to New Source Construction Permit and Federally Enforceable State Operating Permit No. F073-26569-00041, Plant ID No. 073-00041 issued on \_\_\_\_\_.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature \_\_\_\_\_

Date \_\_\_\_\_

STATE OF INDIANA)  
)SS

COUNTY OF \_\_\_\_\_ )

Subscribed and sworn to me, a notary public in and for \_\_\_\_\_ County and State of Indiana on this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_. My Commission expires: \_\_\_\_\_.

Signature \_\_\_\_\_

Name \_\_\_\_\_ (typed or printed)

**ATTACHMENT A**  
**BABCOCK PAVING INC.**  
**ASPHALT PLANT SITE FUGITIVE DUST CONTROL PLAN**

1. Fugitive particulate matter (dust) emissions from paved roads, unpaved roads, and parking lots shall be controlled by one or more of the following measures:
  - A. Paved roads and parking lots:
    - (1) Cleaning by vacuum sweeping on an as-needed basis (monthly at a minimum).
    - (2) Power brooming while wet either from rain or application of water.
  - B. Unpaved roads and parking lots:
    - (1) Paving with asphalt
    - (2) Treating with water on an as-needed basis.
2. Fugitive particulate matter (dust) emissions from aggregate stockpiles shall be controlled by one or more of the following measures:
  - A. Maintain minimum size and number of stock piles of aggregate.
  - B. Treating around the stockpile area with water on an as-needed basis.
  - C. Treating the stockpiles with water on an as-needed basis.
3. Fugitive particulate matter (dust) emission from outdoor conveying of aggregates shall be controlled by the following measures:
  - A. Apply water at the feed and the intermediate points on an as-needed basis.
4. Fugitive particulate matter (dust) emissions resulting from the transferring of aggregates shall be controlled by one or more of the following measures:
  - A. Minimize the vehicular distance between the transfer points.
  - B. Enclose the transfer points.
  - C. Apply water on transfer points on an as-needed basis.
5. Fugitive particulate matter (dust) emissions from the transportation of aggregate by truck, front end loader, etc. shall be controlled by one or more of the following measures:
  - A. Tarping the aggregate hauling vehicles.
  - B. Maintain vehicle bodies in a condition to prevent leakage.
  - C. Spray the aggregates with water.
  - D. Maintain a 10-mph speed limit in the yard.

6. Fugitive particulate matter (dust) emissions from the loading and unloading of aggregates shall be controlled by one or more of the following measures:
  - A. Reduce free fall distance to a minimum.
  - B. Reduce the rate of discharge of the aggregate.
  - C. Spray the aggregate with water on an as-needed basis.

DEFINITIONS:

“An as-needed basis” means the frequency or quantity of application necessary to minimize visible particulate matter emissions.

**Indiana Department of Environmental Management  
Office of Air Quality**

Technical Support Document (TSD) for a New Source Construction  
and Federally Enforceable State Operating Permit (FESOP)

**Source Description and Location**

<b>Source Name:</b>	<b>Babcock Paving, Inc.</b>
<b>Source Location:</b>	<b>6049 Work Street, Demotte, Indiana 46310</b>
<b>County:</b>	<b>Jasper</b>
<b>SIC Code:</b>	<b>2951</b>
<b>Operation Permit No.:</b>	<b>F073-26569-00041</b>
<b>Permit Reviewer:</b>	<b>Janet Mobley</b>

On May 20, 2008, the Office of Air Quality (OAQ) received an application from Babcock Paving, Inc., relating to the construction and operation of a new stationary drum hot and cold mix asphalt plant.

**Existing Approvals**

The source was issued General FESOP Permit Renewal No. 073-22749-05136 on November 17, 2006. The source is installing this new drum hot and cold mix asphalt plant next to the existing batch plant and the existing plant will be taken out of operation. The source is stationary and not portable so a new plant id number 00041 was given to this application.

**County Attainment Status**

The source is located in Jasper County.

Pollutant	Designation
SO <sub>2</sub>	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O <sub>3</sub>	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. <sup>1</sup>
PM <sub>10</sub>	Unclassifiable effective November 15, 1990.
NO <sub>2</sub>	Cannot be classified or better than national standards.
Pb	Not designated.
<sup>1</sup> Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM <sub>2.5</sub> .	

(a) Ozone Standards

- (1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, St. Joseph as attainment for the 8-hour ozone standard.
- (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte,

Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.

- (4) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Jasper County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Jasper County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15<sup>th</sup>, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.
- (c) Other Criteria Pollutants  
Jasper County has been classified as attainment or unclassifiable in Indiana for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

#### **Fugitive Emissions**

This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions are counted toward the determination of PSD, Emission Offset and Part 70 applicability.

#### **Background and Description of New Source Construction**

The Office of Air Quality (OAQ) has reviewed an application, submitted by Babcock Paving, Inc., on May 20, 2008, relating to the construction and operation of a new stationary drum hot and cold mix asphalt plant.

The following is a list of the new emission unit(s) and pollution control device(s):

- (a) One (1) Drum Mix Asphalt Plant, approved for construction in 2008, consisting of the following:
  - (1) One (1) drum mixer and one (1) aggregate rotary dryer/burner, identified as emission unit EU1, with a maximum capacity of 225 tons of asphalt per hour. The dryer is equipped with one (1) natural gas-fired burner with a maximum rated capacity of 75 MMBtu per hour, using No. 2 distillate fuel oil and re-refined waste oil as backup fuels, and one (1) jet-pulse baghouse for particulate control, exhausting through stack S1.  
  
Under NSPS subpart I, this is considered an affected hot-mix asphalt facility.
- (b) Material Handling and conveying operations, approved for construction in 2008, consisting of the following:
  - (1) Three (3) feeder conveyors.
  - (2) One (1) screen deck.

- (3) One (1) Cold Mix Feed system consisting of five (5) compartments, each with a capacity of 30 (thirty) tons, with a total aggregate holding capacity of 150 tons.
  - (4) One (1) Recycled Asphalt Pavement (RAP) system, identified as RC1, consisting of a RAP Bin, Shaker, and Conveyor, with a capacity of 214 tons per hour.
  - (5) One (1) Aggregate Bucket Elevator.
  - (6) One (1) Transfer Drag Slat to silo.
  - (7) Two (2) Hot Mix Asphalt storage silos, each with a maximum capacity of 100 tons.
  - (8) One (1) Aggregate Storage Area, with a maximum storage capacity of 35,000 tons.
- (c) Two (2) liquid asphalt storage tanks, identified as Tank A and Tank B, each with a maximum storage capacity of 25,000 gallons, respectively.
  - (d) One (1) hot oil heater, burning natural gas or No. 2 fuel, rated at 1.25 million British thermal units per hour (MMBtu/hr), exhausting through stack S4.
  - (e) Two (2) fuel storage tanks, identified as Tank C and Tank D, each with a maximum storage capacity of 15,000 gallons;
- (b) Insignificant activities consisting of the following:
    - (1) Paved and unpaved roads with limited public access [326 IAC 6-4]

Note: This new plant will be replacing the existing asphalt plant.

<b>Enforcement Issues</b>
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There are no pending enforcement actions.

<b>Emission Calculations</b>
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See Appendix A of this Technical Support Document for detailed emission calculations.

<b>Permit Level Determination – FESOP</b>
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Appendix A of this TSD reflects the unrestricted potential emissions of the source.

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) of PM<sub>10</sub>, PM, SO<sub>2</sub>, VOC and CO is greater than one hundred (100) tons per year. The PTE of all other regulated criteria pollutants are less than one hundred (100) tons per year. The source would have been subject to the provisions of 326 IAC 2-7. However, the source will be issued a New Source Construction Permit (326 IAC 2-5.1-3) and a Federally Enforceable State Operating Permit (FESOP) (326 IAC 2-8), because the source will limit emissions to less than the Title V major source threshold levels.
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

**PTE of the Entire Source After Issuance of the FESOP**

The table below summarizes the potential to emit of the entire source after issuance of this FESOP, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this FESOP, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process Description	Potential to Emit of the Entire Source After Issuance of the FESOP (tons/year) Limited/Controlled Potential Emissions								
	Criteria Pollutants						Hazardous Air Pollutants		
	PM	PM10	SO2	NOx	VOC	CO	Total HAPs	Worst Single HAP	
<b>Ducted Emissions</b>									
Fuel Combustion (worst case)	44.71	35.63	81.33	89.25	4.91	74.97	9.99	9.74	(hydrogen chloride)
Dryer/Mixer	185.25	78.00	28.28	26.81	15.60	63.38	5.20	1.51	(formaldehyde)
<b>Worst Case Emissions</b>	<b>185.25</b>	<b>78.00</b>	<b>81.33</b>	<b>89.25</b>	<b>15.60</b>	<b>74.97</b>	<b>9.99</b>	<b>9.74</b>	(hydrogen chloride)
<b>Fugitive Emissions</b>									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.54	0.54	0	0	8.35	1.40	0.14	0.04	(formaldehyde)
Hot Oil System	0	0	0	0	1.0E-03	0.05	1.0E-03	6.4E-04	(naphthalene)
Material Storage Piles	2.61	0.91	0	0	0	0	0	0	
Material Processing and Handling	3.15	1.49	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	15.47	5.65	0	0	0	0	0	0	
Paved and Unpaved Roads (worst case)	34.62	8.82	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	52.50	0	13.69	4.73	(xylenes)
Gasoline Dispensing	0	0	0	0	0.74	0	0.19	0.07	(xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	negl.	0	negl.	negl.	
<b>Total Fugitive Emissions</b>	<b>56.39</b>	<b>17.42</b>	<b>0</b>	<b>0</b>	<b>61.59</b>	<b>1.45</b>	<b>14.03</b>	<b>4.79</b>	(xylenes)
<b>Totals Limited/Controlled Emissions</b>	<b>241.64</b>	<b>95.42</b>	<b>81.33</b>	<b>89.25</b>	<b>77.19</b>	<b>76.42</b>	<b>24.02</b>	<b>9.74</b>	(hydrogen chloride)
Title V Major Source Thresholds	<b>NA</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>25</b>	<b>10</b>	
PSD Major Source Thresholds	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>NA</b>	<b>NA</b>	
(1) PTE after Production Limitation. negl. = negligible * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. ** Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible.									

(a) FESOP Status

This new source is not a Title V major stationary source, because the potential to emit criteria pollutants from the entire source will be limited to less than the Title V major source threshold levels. Therefore, this source will be subject to the provisions of 326 IAC 2-8 (FESOP).

The source reported that natural gas will be the primary fuel used in the dryer/burner.

The combustion of waste oil produces the regulated HAP, hydrochloric acid (HCl). The source will limit HCl emissions to 9.74 ton per twelve (12) consecutive month period. Also the source will restrict the use of waste oil to that which contains less than or equal to 0.75 % by weight of sulfur and to #2 fuel oil with a sulfur content less than or equal to 0.5 % by weight.

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the source shall comply with the following:

(1) PM<sub>10</sub> Limit

The asphalt production rate shall not exceed 975,000 tons per twelve (12) consecutive month period.

PM<sub>10</sub> emissions from the drum mixer and aggregate dryer/burner shall not exceed 0.160 pound PM<sub>10</sub> per ton of asphalt mix.

(2) SO<sub>2</sub> Limits

(a) The sulfur content of the No. 2 fuel oil shall not exceed 0.5% by weight. The usage of the No. 2 fuel oil for the 75 MMBtu per hour aggregate dryer/burner shall not exceed 2,072,102 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The usage of waste oil with a limited sulfur content of 0.75% and a maximum chlorine content of 0.2% and waste oil equivalents in the 75 MMBtu per hour aggregate dryer/burner shall not exceed 1,475,374 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month, such that the source-wide SO<sub>2</sub> emissions are limited to less than 100 tons per twelve (12) consecutive month period.

(3) NO<sub>x</sub> Limits

The usage of No. 2 Fuel Oil for the 75 MMBtu per hour dryer/mixer burner shall be limited to less than 2,072,102 gallons or equivalent per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the NO<sub>x</sub> emissions from other units at the source, will limit source-wide NO<sub>x</sub> emissions to less than 100 tons per twelve (12) consecutive month period. Compliance with these limits will render 326 IAC 2-7 (Part 70 Permit Program), 326 IAC 2-2 (PSD), and 326 IAC 2-3 (Emission Offset) not applicable.

(4) VOC Limits

(A) Gelled asphalt with VOC solvent liquid binder, containing a maximum of 25.9% of the liquid binder of VOC solvent and 2.5% by weight of the VOC solvent evaporating, used in the production of cold mix asphalt shall not exceed 2000 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month. This will limit the VOC emitted from solvent use to 52.5 tons per twelve (12) consecutive month period so that source-wide VOC emissions are limited to 100 tons per year.

(B) The VOC emissions from the aggregate dryer/burner and drum mixer shall be less than 0.032 pound per ton of asphalt processed and the amount of asphalt processed shall not exceed 975,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This shall limit the potential VOC emissions to less than twenty-five (25) tons per year from the aggregate dryer/burner and drum mixer.

The source is being constructed after January 1, 1980, produces cutback or emulsified asphalt and is subject to 326 IAC 8-5-2, therefore the requirements of 326 IAC 8-1-6 (VOC

Rules: General Reduction Requirements for New Facilities) are not included in the permit for this source.

- (5) CO Limit  
The CO emissions from the drum mixer and aggregate dryer/burner shall be less than 0.130 pound per ton of asphalt processed and the amount of asphalt processed shall not exceed 975,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (6) HCl Limits  
The source-wide HCl emissions are limited to 9.74 tons per twelve (12) consecutive month period.

This fuel usage limitation will limit source-wide HCl emissions to less than 9.74 tons per year based on a maximum waste oil chlorine content of 0.2%. Since HCl is the only single HAP with unrestricted potential emissions of greater than 10 tons per year, this limit will ensure that source-wide single HAP and total HAP emissions are limited to less than 10 and 25 tons per year, respectively.

Compliance with these limits, combined with the potential to emit PM<sub>10</sub>, SO<sub>2</sub>, VOC, and CO and/or HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of PM<sub>10</sub>, SO<sub>2</sub>, VOC, and CO to less than 100 tons per 12 consecutive month period, each, any single HAP to less than ten (10) tons per 12 consecutive month period, and total HAPs to less than twenty-five (25) tons per 12 consecutive month period and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset), 326 IAC 2-1.1-5 (Nonattainment New Source Review), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

- (b) PSD Minor Source  
This new source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit of PM and PM<sub>2.5</sub> is limited to less than 250 tons per year and the potential to emit all other attainment regulated pollutants are less 250 tons per year, and this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) not applicable, the source shall comply with the following:

- (1) PM/PM<sub>2.5</sub> emissions from the drum mixer and aggregate dryer/burner shall be less than 0.380 pound per ton of asphalt processed
- (2) The amount of asphalt processed shall not exceed 975,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

This is equivalent to PM/PM<sub>2.5</sub> emissions of 185.25 tons per year from the aggregate dryer and drum mixer, and 241.64 tons per year from the entire source.

Pursuant to 326 IAC 2-8, the Permittee shall control PM and PM<sub>10</sub> emissions from the paved roads according to the fugitive dust plan submitted on May 30, 2008, which is included as Attachment A to the permit.

See Appendix A for the detailed calculations.

#### Federal Rule Applicability Determination

- (a) Pursuant to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) is not included in the permit because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

The following federal rules are applicable to the source.

New Source Performance Standards (NSPS)

- (a) This stationary drum hot-mix asphalt plant, approved for construction in 2008, is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.90, Subpart I) (326 IAC 12) because it meets the definition of a hot-mix asphalt facility pursuant to the rule and it was constructed after June 11, 1973. This rule limits particulate matter emissions to 0.04 grains per dry standard cubic foot (gr/dscf) and also limits visible emissions to 20% opacity.

The source will be able to comply with this rule by using the Baghouse to limit particulate matter emissions from the dryer/mixer to less than 0.04 gr/dscf.

The dryer/mixer is subject to the following portions of 40 CFR 60, Subpart I:

- (1) 40 CFR 60.90.
- (2) 40 CFR 60.91.
- (3) 40 CFR 60.92.
- (4) 40 CFR 60.93.

Nonapplicable portions of the NSPS will not be included in the permit.

The provisions of 40 CFR 60 Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the dryer/mixer except when otherwise specified in 40 CFR 60 Subpart I.

- (b) The requirements of the New Source Performance Standard for Asphalt Processing and Asphalt Roofing Manufacture, 40 CFR 60, Subpart UU (326 IAC 12), are not included in the permit, since pursuant to 40 CFR 60.471, the stationary drum hot-mix asphalt plant is not an asphalt processing plant because it does not blow asphalt, or an asphalt roofing plant because it does not produce asphalt roofing products, and pursuant to 40 CFR 60.101(a) the stationary drum hot-mix asphalt plant is not a petroleum refinery because it is not engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives.
- (c) The requirements of the New Source Performance Standard for Nonmetallic Mineral Processing Plants (40 CFR 60, Subpart OOO) (326 IAC 12), are not included in the permit, since the Recycled Asphalt Pavement (RAP) system does not contain a crusher or grinding mill. The source will be receiving pre-crushed/pre-sized RAP materials, therefore, pursuant to 40 CFR 60.670(a)(2) stand-alone screening operations at plants without crushers or grinding mills are exempt.
- (d) The requirements of the New Source Performance Standard for Calciners and Dryers in Mineral Industries, 40 CFR 60, Subpart UUU (326 IAC 12), are not included in the permit, since a stationary drum hot-mix asphalt plant is not a mineral processing plant, meaning that it does not process or produce any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.
- (e) The two (2) 25,000 gallon liquid asphalt storage tank, identified as Tank A and Tank B are each not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.110, Subpart Kb) "Standards of Performance for Volatile Organic Liquid Storage Vessels". Each storage tank has a capacity greater than 75 m<sup>3</sup> (19,813 gallons) but less than 151 m<sup>3</sup> (39,890 gallons) and the liquid stored in the tank has a maximum true vapor pressures of less than 15.0 kPa. Therefore, pursuant to 40 CFR 60.110b(b), these tanks are exempt from this rule and the requirements of this rule are not included in the permit for these tanks.

- (f) The two (2) 15,000 gallon No. 2 fuel oil storage tank, identified as Tank C and Tank D, are each not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.110, Subpart Kb) "Standards of Performance for Volatile Organic Liquid Storage Vessels". Although storage tanks C and D will be constructed after July 23, 1984, they have a maximum capacity less than 75 m<sup>3</sup> (19,813 gallons). Therefore, pursuant to 40 60.110b(a), the tanks are exempt from this rule and the requirements of this rule are not included in the permit for these tanks.
- (g) There are no other New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (h) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart LLLLL (326 IAC 20-(number)), are not included in the permit, since the stationary drum hot-mix asphalt plant is not a major source of HAPs, is not located at and is not part of a major source of HAP emissions, and does not engage in the preparation of asphalt flux or asphalt roofing materials.
- (i) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

<b>State Rule Applicability Determination</b>
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The following state rules are applicable to the source:

- (a) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))  
PSD applicability is discussed under the PTE of the Entire Source after Issuance of the FESOP section above.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))  
The unlimited potential to emit of HAPs from the stationary drum hot-mix asphalt plant is greater than ten (10) tons per year for any single HAP and/or greater than twenty-five (25) tons per year of a combination of HAPs. However, the source shall limit the potential to emit of HAPs from the stationary drum hot-mix asphalt plant to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the source is not subject to the requirements of 326 IAC 2-4.1. See PTE of the Entire Source After Issuance of the FESOP Section above.
- (c) 326 IAC 2-6 (Emission Reporting)  
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (d) 326 IAC 2-8-4 (FESOP)  
FESOP applicability is discussed under the PTE of the Entire Source after Issuance of the FESOP section above.
- (e) 326 IAC 5-1 (Opacity Limitations)  
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
  - (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A,

Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

- (f) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)  
The source is subject to the requirements of 326 IAC 6-4, because the Asphalt Load-Out and On-Site Yard, Hot Oil and Asphalt Heaters, Material Screening, and Conveying, Material Processing and Handling, Material Storage Piles, and Paved Roads each have the potential to emit fugitive particulate emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (g) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)  
The source is subject to the requirements of 326 IAC 6-5, because the Asphalt Load-Out and On-Site Yard, Hot Oil and Asphalt Heaters, Material Screening, and Conveying, Material Processing and Handling, Material Storage Piles, and Paved Roads have combined potential fugitive particulate emissions greater than 25 tons per year. Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan, submitted on May 20, 2008, which is included as Attachment A to the permit.
- (h) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)  
The dryer/mixer burner, identified as emission unit EU1, is subject to 326 IAC 7-1.1 because it has potential SO<sub>2</sub> emissions of greater than 25 tons per year (limited potential emissions are 81.33 tons per year). Pursuant to this rule, sulfur dioxide emissions from the dryer/mixer burner shall be limited to five-tenths (0.5) pounds per million Btu for distillate oil combustion (including No. 2 fuel oil). This equates to a maximum allowable sulfur content of (0.5% by weight) for the distillate fuel oils.
- (i) 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements)  
Pursuant to this rule, the source shall submit reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate (pounds SO<sub>2</sub> per MMBtu), to the OAQ upon request.
- (j) 326 IAC 8-5-2 (Miscellaneous operations: asphalt paving)  
Any paving application made after January 1, 1980, is subject to the requirements of 326 IAC 8-5-2. Pursuant to this rule, no person shall cause or allow the use of cutback asphalt or asphalt emulsion containing more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:
- (a) penetrating prime coating
  - (b) stockpile storage
  - (c) application during the months of November, December, January, February and March.

The owner or operator will still not process emulsified or cutback asphalt at this source unless proper approval has been obtained from IDEM, OAQ. Therefore, this source can comply with this rule.

- (k) 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)  
Pursuant to 326 IAC 8-4-1 (Applicability) and 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities), all petroleum liquid storage vessels with capacities greater than one hundred fifty thousand (150,000) liters (39,000 gallons) containing VOC whose true vapor pressure is greater than 10.5 kPa (1.52 psi) shall comply with the requirements for external fixed and floating roof tanks and the specified record keeping and reporting requirements. Tanks A, B, C and D each have maximum capacities less than 39,000 gallons. Therefore, the requirements of this rule are not applicable to these facilities and are not included in this permit.
- (l) 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)  
The two (2) liquid asphalt storage tanks and the two (2) No. 2 fuel oil storage tanks are each not

subject to the requirements of this rule because the source is not located in Clark, Floyd, Lake, or Porter Counties.

- (m) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category)  
 This source does not operate a Portland cement kiln or a blast furnace gas boiler with a heat input greater than two hundred fifty million (250,000,000) British thermal units per hour. The one (1) 75 million Btu dryer/mixer burner is not subject to this rule, therefore the requirements of 326 IAC 10-3 are not included in the permit for this source.
- (n) 326 IAC 12-1 (New Source Performance Standards)  
 The hot-mix asphalt plant is required to comply with the requirements of 40 CFR 60.90, Subpart I, Standards of Performance for Hot-mix Asphalt Facilities, as described in the "Federal Rule Applicability" section of this TSD.
- (o) 326 IAC 20 (Hazardous Air Pollutants)  
 There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit See Federal Rule Applicability Section of this TSD.

**Compliance Determination, Monitoring and Testing Requirements**

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

- (a) The compliance determination and monitoring requirements applicable to this source are as follows:

- (1) The dryer/mixer has applicable compliance determination conditions as specified below:

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing	Limit or Requirement
drum mixer & aggregate dryer/burner	baghouse	180 days after publication of revised test method	PM/PM <sub>10</sub>	Once every five (5) years	0.380 lb PM/ton of asphalt; and 0.160 lb PM <sub>10</sub> /ton of asphalt

- (A) PM<sub>2.5</sub> and PM<sub>10</sub> testing shall be performed for baghouse (BH1) within one hundred and eighty (180) days of publication of the new or revised condensable PM test method(s) referenced in the U.S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM<sub>2.5</sub>), signed on May 8th, 2008. This testing shall be conducted utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with

Section C - Performance Testing. PM 10 and PM 2.5 includes filterable and condensable PM.

In order to comply with the PM and PM<sub>10</sub> limitations in the permit, the baghouse for the dryer/mixer, identified as BH1, shall be in operation and control emissions from the drum mixer & aggregate dryer/burner at all times when the drum mixer & aggregate dryer/burner is in operation.

In the event that cyclone and/or bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

- (B) Opacity testing utilizing 40 CFR Part 60 Appendix A, Method 9, is required to demonstrate compliance with the opacity limitation of 40 CFR 60, Subpart I.

These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

The dryer/mixer is controlled by a baghouse. To render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70 Permit Program) not applicable, the PM and PM<sub>10</sub> emissions from the dryer/mixer are limited to 0.380 and 0.160 pounds per ton of asphalt, respectively. PM and PM<sub>10</sub> testing is required in order to demonstrate with these limits.

- (C) Compliance with the SO<sub>2</sub> emission limitations shall be determined utilizing one of the following options.

- (1) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million Btu input when operating on distillate oil (No. 2 fuel oil) and one and six-tenths (1.6) pounds per million Btu heat input when operating on residual oil (used/waste oil).

(a) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or

(b) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(1) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(2) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(ii) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the dryer/mixer burner using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

- (D) The Permittee shall demonstrate that the chlorine content of the fuel used does not exceed two tenths of a percent (0.20%) by weight when operating on waste oil, and five hundredths of a percent (0.50%) by weight when operating on No. 2 fuel oil, by providing vendor analysis of the fuel delivered, if accompanied by a vendor certification.
  - (E) The Permittee shall demonstrate compliance with the CO emission limitations by keeping records of the annual asphalt production rate, with compliance determined at the end of each month.
  - (F) The Permittee shall demonstrate compliance with the VOC emission limitations by the following:
    - (A) Recording the amount of cold mix asphalt produced, with compliance determined at the end of each month.
    - (B) Recording the amount of hot mix asphalt produced, with compliance determined at the end of each month.
- (b) The drum mixer and aggregate dryer/burner, baghouse stack exhaust, identified as S1, the conveying, screening, and material transfer points have applicable compliance monitoring conditions as specified below:

Control	Parameter	Frequency	Range	Excursions and Exceedances
<b>Conveyors, screening, material transfer points and dryer/mixer stack (S1) exhaust</b>	Visible Emissions	Daily	Normal-Abnormal	Response Steps
<b>Baghouse for the dryer/mixer</b>	Water Pressure Drop	Daily	3.0 to 6.0 inches	Response Steps

- (A) Visible emission notations of the drum mixer and aggregate dryer/burner, baghouse stack exhaust, and the conveying, screening, and material transfer points shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (B) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (C) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (D) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (E) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.
- (F) The Permittee shall record the pressure drop across the baghouse used in conjunction with the drum mixer and aggregate dryer/burner, at least once per day when the drum mixer and aggregate dryer/burner is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack

test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to

take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

- (G) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.
- (H) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (I) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (J) Bag failure can be indicated by a significant drop in the baghouse pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

These monitoring conditions are necessary because the jet-pulse baghouse, BH1, used in conjunction with the drum mixer and aggregate dryer/burner must operate properly to ensure compliance with 40 CFR 60, Subpart I, 326 IAC 2-8 (FESOP), and the limits that render 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70 Permit Program) not applicable.

### **Air Quality Impacts from Minor Sources**

#### **Modeling Overview**

Pursuant to 326 IAC 2-1.1-5, IDEM, OAQ, has conducted a modeling analysis of the Limited Potential to Emit (PTE) criteria pollutants from this proposed source to estimate whether the Limited PTE criteria pollutants will cause or contribute to a violation of any National Ambient Air Quality Standard (NAAQS).

#### **Modeling Results – Criteria Pollutants**

The modeling results indicate that the Limited PTE criteria pollutants from this source will not exceed the National Ambient Air Quality Standards (NAAQS).

### **Conclusion and Recommendation**

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on May 20, 2008, and additional information received on July 25, 2008.

The construction and operation of this source shall be subject to the conditions of the attached proposed New Source Construction and FESOP No. 073-26569-00041. The staff recommends to the Commissioner that this New Source Construction and FESOP be approved.

<b>IDEM Contact</b>
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- (a) Questions regarding this proposed permit can be directed to Janet Mobley at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5373 or toll free at 1-800-451-6027 extension 4-5373.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.idem.in.gov](http://www.idem.in.gov).

**Appendix A: Emissions Calculations  
Emission Summary**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

**Asphalt Plant Maximum Capacity**

Maximum Hourly Asphalt Production =	225	ton/hr								
Maximum Annual Asphalt Production =	1,971,000	ton/yr								
Maximum Fuel Input Rate =	75	MMBtu/hr								
Equivalent Natural Gas Usage =	657	MMCF/yr								
Equivalent No. 2 Fuel Oil Usage =	4,692,857	gal/yr, and	0.50	% sulfur						
Equivalent Used/Waste Oil Usage =	4,692,857	gal/yr, and	0.75	% sulfur	0.947	% ash	0.200	% chlorine,	0.0089	% lead

**Unlimited/Uncontrolled Emissions**

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)							
	Criteria Pollutants						Hazardous Air Pollutants	
	PM	PM10	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP
<b>Ducted Emissions</b>								
Fuel Combustion (worst case)	142.21	113.33	258.69	46.93	2.36	9.00	33.49	30.97 (hydrogen chloride)
Dryer/Mixer	27594.00	6405.75	57.16	54.20	31.54	128.12	10.50	3.06 (formaldehyde)
<b>Worst Case Emissions</b>	<b>27594.00</b>	<b>6405.75</b>	<b>258.69</b>	<b>54.20</b>	<b>31.54</b>	<b>128.12</b>	<b>33.49</b>	<b>30.97</b> (hydrogen chloride)
<b>Fugitive Emissions</b>								
Asphalt Load-Out, Silo Filling, On-Site Yard	1.09	1.09	0	0	16.88	2.84	0.28	0.09 (formaldehyde)
Hot Oil System	0	0	0	0	1.0E-03	0.05	1.0E-03	6.6E-04 (naphthalene)
Material Storage Piles	2.61	0.91	0	0	0	0	0	0
Material Processing and Handling	6.37	3.01	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	31.27	11.42	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	69.99	17.84	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	23686.49	0	6178.31	2131.78 (xylenes)
Gasoline Dispensing	0	0	0	0	0.74	0	0.19	0.07 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	negl.	0	negl.	negl.
<b>Total Fugitive Emissions</b>	<b>111.34</b>	<b>34.28</b>	<b>0</b>	<b>0</b>	<b>23704.11</b>	<b>2.89</b>	<b>6178.79</b>	<b>2131.85</b> (xylenes)
<b>Totals Unlimited/Uncontrolled PTE</b>	<b>27705.34</b>	<b>6440.03</b>	<b>258.69</b>	<b>54.20</b>	<b>23735.65</b>	<b>131.00</b>	<b>6212.28</b>	<b>2131.78</b> (xylenes)

negl = negligible

**Appendix A: Emissions Calculations**  
**Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

The following calculations determine the Unlimited/Uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

**Maximum Capacity**

Maximum Annual Asphalt Production =	1,971,000	ton/yr
Maximum Fuel Input Rate =	75	MMBtu/hr
Equivalent Natural Gas Usage =	657	MMCF/yr
Equivalent No. 2 Fuel Oil Usage =	4,692,857	gal/yr, and
Equivalent Used/Waste Oil Usage =	4,692,857	gal/yr, and
	0.50	% sulfur
	0.75	% sulfur
	0.947	% ash
	0.200	% chlorine
	0.0089	% lead

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Used/Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	60.6	0.62	4.69	142.21	142.2123
PM10	7.6	3.3	48.297	2.50	7.74	113.33	113.33
SO2	0.6	71.0	110.3	0.20	166.60	258.69	258.69
NOx	100	20.0	19.0	32.85	46.93	44.58	46.93
VOC	5.5	0.20	1.0	1.81	0.47	2.35	2.35
CO	84	5.0	5.0	27.594	11.73	11.73	27.59
<b>Hazardous Air Pollutant</b>							
HCl			13.2			30.97	30.97
Antimony			negl			negl	0.0E+00
Arsenic	2.0E-04	5.6E-04	1.1E-01	6.6E-05	1.31E-03	2.58E-01	2.6E-01
Beryllium	1.2E-05	4.2E-04	negl	3.9E-06	9.86E-04	negl	9.9E-04
Cadmium	1.1E-03	4.2E-04	9.3E-03	3.6E-04	9.86E-04	2.18E-02	2.2E-02
Chromium	1.4E-03	4.2E-04	2.0E-02	4.6E-04	9.86E-04	4.69E-02	4.7E-02
Cobalt	8.4E-05		2.1E-04	2.8E-05		4.93E-04	4.9E-04
Lead	5.0E-04	1.3E-03	0.4895	1.6E-04	2.96E-03	1.1E+00	1.15
Manganese	3.8E-04	8.4E-04	6.8E-02	1.2E-04	1.97E-03	1.60E-01	0.16
Mercury	2.6E-04	4.2E-04		8.5E-05	9.86E-04		9.9E-04
Nickel	2.1E-03	4.2E-04	1.1E-02	6.9E-04	9.86E-04	2.58E-02	0.026
Selenium	2.4E-05	2.1E-03	negl	7.9E-06	4.93E-03	negl	4.9E-03
1,1,1-Trichloroethane							0.0E+00
1,3-Butadiene							0.0E+00
Acetaldehyde							0.0E+00
Acrolein							0.0E+00
Benzene	2.1E-03			6.9E-04			6.9E-04
Bis(2-ethylhexyl)phthalate			2.2E-03			5.16E-03	5.2E-03
Dichlorobenzene	1.2E-03		8.0E-07	3.9E-04		1.88E-06	3.9E-04
Ethylbenzene							0.0E+00
Formaldehyde	7.5E-02	6.10E-02		2.5E-02	1.43E-01		0.143
Hexane	1.8E+00			0.59			0.591
Phenol			2.4E-03			5.63E-03	5.6E-03
Toluene	3.4E-03			1.1E-03			1.1E-03
Total PAH Haps	negl		3.9E-02	negl		9.17E-02	9.2E-02
Polycyclic Organic Matter		3.30E-03			7.74E-03		7.7E-03
Xylene							0.0E+00
<b>Total HAPs</b>				<b>0.62</b>	<b>0.17</b>	<b>32.74</b>	<b>33.49</b>

**Methodology**

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 MMCF/1,000 MMBtu]  
 Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.140 MMBtu]

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 SO2 = Sulfur Dioxide  
 NOx = Nitrous Oxides  
 VOC = Volatile Organic Compounds  
 CO = Carbon Monoxide  
 HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride  
 PAH = Polyaromatic Hydrocarbon

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \* [ton/2000 lbs]  
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [kgal/1000 gal] \* [ton/2000 lbs]  
 Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas: AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4  
 No. 2, Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

**Appendix A: Emissions Calculations**  
**Dryer/Mixer**  
**Volatile Organic Compounds and Hazardous Air Pollutants**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing

Maximum Annual Asphalt Production = **1,971,000** ton/yr

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM	28	28	28	27594	27594	27594	<b>27594</b>
PM10	6.5	6.5	6.5	6405.75	6405.75	6405.75	<b>6405.75</b>
SO2	0.0034	0.011	0.058	3.4	10.8	57.2	<b>57.2</b>
NOx	0.026	0.055	0.055	25.6	54.2	54.2	<b>54.2</b>
VOC	0.032	0.032	0.032	31.5	31.5	31.5	<b>31.5</b>
CO	0.13	0.13	0.13	128.1	128.1	128.1	<b>128.1</b>
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04			2.07E-01	<b>0.21</b>
Antimony	1.80E-07	1.80E-07	1.80E-07	1.77E-04	1.77E-04	1.77E-04	<b>1.77E-04</b>
Arsenic	5.60E-07	5.60E-07	5.60E-07	5.52E-04	5.52E-04	5.52E-04	<b>5.52E-04</b>
Beryllium	negl	negl	negl	negl	negl	negl	<b>0.00E+00</b>
Cadmium	4.10E-07	4.10E-07	4.10E-07	4.04E-04	4.04E-04	4.04E-04	<b>4.04E-04</b>
Chromium	5.50E-06	5.50E-06	5.50E-06	5.42E-03	5.42E-03	5.42E-03	<b>5.42E-03</b>
Cobalt	2.60E-08	2.60E-08	2.60E-08	2.56E-05	2.56E-05	2.56E-05	<b>2.56E-05</b>
Lead	6.20E-07	1.50E-05	1.50E-05	6.11E-04	1.48E-02	1.48E-02	<b>1.48E-02</b>
Manganese	7.70E-06	7.70E-06	7.70E-06	7.59E-03	7.59E-03	7.59E-03	<b>7.59E-03</b>
Mercury	2.40E-07	2.60E-06	2.60E-06	2.37E-04	2.56E-03	2.56E-03	<b>2.56E-03</b>
Nickel	6.30E-05	6.30E-05	6.30E-05	0.06	0.06	0.06	<b>0.06</b>
Selenium	3.50E-07	3.50E-07	3.50E-07	3.45E-04	3.45E-04	3.45E-04	<b>3.45E-04</b>
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.04	0.04	0.04	<b>0.04</b>
Acetaldehyde			1.30E-03			1.28	<b>1.28</b>
Acrolein			2.60E-05			2.56E-02	<b>2.56E-02</b>
Benzene	3.90E-04	3.90E-04	3.90E-04	0.38	0.38	0.38	<b>0.38</b>
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.24	0.24	0.24	<b>0.24</b>
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	3.06	3.06	3.06	<b>3.06</b>
Hexane	9.20E-04	9.20E-04	9.20E-04	0.91	0.91	0.91	<b>0.91</b>
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.05	0.05	0.05	<b>0.05</b>
MEK			2.00E-05			0.02	<b>0.02</b>
Propionaldehyde			1.30E-04			0.13	<b>0.13</b>
Quinone			1.60E-04			0.16	<b>0.16</b>
Toluene	1.50E-04	2.90E-03	2.90E-03	0.15	2.86	2.86	<b>2.86</b>
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.19	0.87	0.87	<b>0.87</b>
Xylene	2.00E-04	2.00E-04	2.00E-04	0.20	0.20	0.20	<b>0.20</b>
							<b>Total HAPs 10.50</b>
							<b>Worst Single HAP 3.06 (formaldehyde)</b>

**Methodology**  
Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)  
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-7, 11.1-8, 11.1-10, and 11.1-1:

**Abbreviations**

VOC = Volatile Organic Compounds      HAP = Hazardous Air Pollutant  
HCl = Hydrogen Chloride                      PAH = Polyaromatic Hydrocarbon  
SO2 = Sulfur Dioxide

**Appendix A: Emissions Calculations  
Load-Out, Silo Filling, and Yard Emissions**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

The following calculations determine the Unlimited/uncontrolled fugitive emissions from hot asphalt mix load-out, silo filling, and on-site yard for a drum mix hot mix asphalt plant

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	1,971,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM	5.2E-04	5.9E-04	NA	0.51	0.58	NA	1.09
Organic PM	3.4E-04	2.5E-04	NA	0.34	0.250	NA	0.59
TOC	0.004	0.012	0.001	4.10	12.01	1.084	17.2
CO	0.001	0.001	3.5E-04	1.33	1.163	0.347	2.84

NA = Not Applicable (no AP-42 Emission Factor)

<b>PM/HAPs</b>	<b>0.024</b>	<b>0.029</b>	<b>0</b>	<b>0.052</b>
<b>VOC/HAPs</b>	<b>0.061</b>	<b>0.153</b>	<b>0.016</b>	<b>0.229</b>
<b>non-VOC/HAPs</b>	<b>3.2E-04</b>	<b>3.2E-05</b>	<b>8.3E-05</b>	<b>4.3E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.30</b>	<b>0.17</b>	<b>0.08</b>	<b>0.55</b>

<b>Total VOCs</b>	<b>3.85</b>	<b>12.01</b>	<b>1.0</b>	<b>16.9</b>
<b>Total HAPs</b>	<b>0.08</b>	<b>0.18</b>	<b>0.016</b>	<b>0.28</b>
	<b>Worst Single HAP</b>			<b>0.087</b>
				<b>(formaldehyde)</b>

**Methodology**

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16

Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14)::

Total PM/PM10 Ef = 0.000181 + 0.00141(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

Organic PM Ef = 0.00141(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

TOC Ef = 0.0172(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

CO Ef = 0.00558(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):

PM/PM10 Ef = 0.000332 + 0.00105(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

Organic PM Ef = 0.00105(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

TOC Ef = 0.0504(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

CO Ef = 0.00488(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32

**Abbreviations**

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate Matter

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

**Appendix A: Emissions Calculations  
Load-Out, Silo Filling, and Yard Emissions (continued)**

Company Name: Babcock Paving, Inc.  
 Source Address: 6049 Work Street, Demotte, Indiana 46310  
 Permit Number: F073-26569-00041  
 Reviewer: Janet Mobley

**Organic Particulate-Based Compounds (Table 11.1-15)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
<b>PAH HAPs</b>										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	8.7E-04	1.2E-03	NA	2.0E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	9.4E-05	3.5E-05	NA	1.3E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	2.4E-04	3.3E-04	NA	5.6E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	6.4E-05	1.4E-04	NA	2.0E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	2.6E-05	0	NA	2.6E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	7.4E-06	0	NA	7.4E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	6.4E-06	0	NA	6.4E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	7.7E-06	0	NA	7.7E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	2.6E-05	2.4E-05	NA	5.0E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	3.5E-04	5.3E-04	NA	8.7E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	1.2E-06	0	NA	1.2E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.7E-04	3.8E-04	NA	5.4E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	2.6E-03	2.5E-03	NA	5.1E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.6E-06	0	NA	1.6E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	8.0E-03	1.3E-02	NA	0.021
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	4.2E-03	4.6E-03	NA	8.8E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	7.4E-05	7.5E-05	NA	1.5E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	2.7E-03	4.5E-03	NA	7.2E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	5.0E-04	1.1E-03	NA	1.6E-03
<b>Total PAH HAPs</b>							<b>0.020</b>	<b>0.029</b>	<b>NA</b>	<b>0.048</b>
<b>Other semi-volatile HAPs</b>										
Phenol		PM/HAP	---	Organic PM	1.18%	0	4.0E-03	0	0	4.0E-03

NA = Not Applicable (no AP-42 Emission Factor)

**Methodology**

Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] \* [Organic PM (tons/yr)]

Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

**Abbreviations**

PM = Particulate Matter  
 HAP = Hazardous Air Pollutant  
 POM = Polycyclic Organic Matter

Appendix A: General Asphalt FESOP Emissions Calculations  
Load-Out, Silo Filling, and Yard Emissions (continued)

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	100%	<b>3.85</b>	<b>12.01</b>	<b>1.02</b>	<b>16.88</b>
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	2.7E-01	3.1E-02	7.0E-02	0.368
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.9E-03	6.6E-03	5.0E-04	0.009
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	2.9E-02	1.3E-01	7.7E-03	0.169
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>1.40%</b>	<b>0.299</b>	<b>0.168</b>	<b>0.079</b>	<b>0.55</b>
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	2.1E-03	3.8E-03	5.6E-04	6.5E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	3.9E-04	5.9E-04	1.0E-04	1.1E-03
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	2.0E-03	4.7E-03	5.3E-04	7.2E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	5.3E-04	1.9E-03	1.4E-04	2.6E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	8.6E-06	4.8E-04	2.3E-06	4.9E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	6.1E-04	2.8E-03	1.6E-04	3.5E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	4.5E-03	0	1.2E-03	5.7E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	1.1E-02	4.6E-03	3.0E-03	0.019
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	3.6E-03	8.3E-02	9.5E-04	0.087
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	6.1E-03	1.2E-02	1.6E-03	0.020
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	7.4E-05	3.7E-05	2.0E-05	1.3E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	3.2E-05	0	3.2E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	3.0E-04	6.5E-04	7.9E-05	1.0E-03
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	3.2E-04	0	8.3E-05	4.0E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	8.6E-03	7.4E-03	2.3E-03	0.018
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	5.3E-05	0	1.4E-05	6.7E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.7E-02	2.4E-02	4.4E-03	0.045
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	3.3E-03	6.8E-03	8.7E-04	1.1E-02
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>1.30%</b>	<b>0.061</b>	<b>0.156</b>	<b>0.016</b>	<b>0.234</b>

Methodology

Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] \* [TOC (tons/yr)]

Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations

TOC = Total Organic Compounds

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

MTBE = Methyl tert butyl ether

**Appendix A: Emissions Calculations  
Hot Oil System**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

The following calculations determine the unlimited/uncontrolled fugitive emissions from heating of the oil used in the the hot oil heating system.

Maximum Fuel Input Rate To Hot Oil Heater = 1.25 MMBtu/hr  
 Equivalent Natural Gas Usage = 11.0 MMCF/yr  
 Equivalent No. 2 Fuel Oil Usage = 78,214 gal/yr, and

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	
VOC	2.60E-08	2.65E-05	1.42E-04	0.001	0.001
CO	8.90E-06	0.0012	0.049	0.047	0.049
<b>Hazardous Air Pollutant</b>					
Formaldehyde:	2.60E-08	3.50E-06	1.42E-04	1.37E-04	1.42E-04
Acenaphthene		5.30E-07		2.07E-05	2.07E-05
Acenaphthylene		2.00E-07		7.82E-06	7.82E-06
Anthracene		1.80E-07		7.04E-06	7.04E-06
Benzo(b)fluoranthene		1.00E-07		3.91E-06	3.91E-06
Fluoranthene		4.40E-08		1.72E-06	1.72E-06
Fluorene		3.20E-08		1.25E-06	1.25E-06
Naphthalene		1.70E-05		6.65E-04	6.65E-04
Phenanthrene		4.90E-06		1.92E-04	1.92E-04
Pyrene		3.20E-08		1.25E-06	1.25E-06

**Total HAPs 1.04E-03**  
**Worst Single HAP 6.65E-04 (Naphthalene)**

**Methodology**

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 MMCF/1,000 MMBtu]  
 Equivalent No. 2 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.140 MMBtu]  
 Natural Gas: Potential to Emit (tons/yr) = (Natural Gas Usage (MMCF/yr))\*(Emission Factor (lb/CF))\*(1000000 CF/MMCF)\*(ton/2000 lbs)  
 No. 2 Fuel Oil: Potential to Emit (tons/yr) = (No. 2 Fuel Oil Usage (gals/yr))\*(Emission Factor (lb/gal))\*(ton/2000 lbs)  
 1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu  
 Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Table 11.1-13

\*Note: Emissions associated with fuel combustion in the hot oil heater are included in the fuel combustion calculations. Emissions (withdrawal and standing losses) associated with all volatile organic liquid (VOL) storage vessels are not included in the table above.

**Abbreviations**

CO = Carbon Monoxide  
 VOC = Volatile Organic Compound

**Appendix A: Emissions Calculations  
Material Storage Piles**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

$$E_f = 1.7 * (s/1.5) * (365-p) / 235 * (f/15)$$
 where  $E_f$  = emission factor (lb/acre/day)  
 s = silt content (wt %)  
 p = 125 days of rain greater than or equal to 0.01 inches  
 f = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10 (tons/yr)
Limestone	1.6	1.85	3.75	1.267	0.444
Sand	2.6	3.01	0.75	0.412	0.144
RAP	0.5	0.58	0.75	0.079	0.028
Gravel	1.6	1.85	0.75	0.253	0.089
Slag	3.8	4.40	0.75	0.602	0.211
<b>Totals</b>				<b>2.61</b>	<b>0.91</b>

**Methodology**

PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) \* (Maximum Pile Size (acres)) \* (ton/2000 lbs) \* (8760 hours/yr)

PTE of PM10 (tons/yr) = (Potential PM Emissions (tons/yr)) \* 35%

\*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PTE = Potential to Emit

**Appendix A: Emissions Calculations  
Material Processing and Handling  
Fugitive Dust**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

**Batch or Continuous Drop Operations (AP-42 Section 13.2.4)**

To estimate potential fugitive dust emissions from processing and handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

$$E_f = k \cdot (0.0032)^k \cdot (U/5)^{1.3} / (M/2)^{1.4}$$

where:  $E_f$  = Emission factor (lb/ton)

- $k$  (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter  $\leq 100$   $\mu$ m)
- $k$  (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter  $\leq 10$   $\mu$ m)
- $U$  = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006\*)
- $M$  = 4.0 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
- $E_f$  (PM) = 2.27E-03 lb PM/ton of material handled
- $E_f$  (PM10) = 1.07E-03 lb PM10/ton of material handled

Maximum Annual Asphalt Production = 1,971,000 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Material Handling Throughput = 1,872,450 tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)
Truck unloading of materials into storage piles	2.12	1.00
Front-end loader dumping of materials into feeder bins	2.12	1.00
Conveyor dropping material into dryer/mixer or batch tower	2.12	1.00
<b>Total (tons/yr)</b>	<b>6.37</b>	<b>3.01</b>

**Methodology**

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]

Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)

Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives

\*Worst case annual mean wind speed (South Bend, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

**Material Screening and Conveying (AP-42 Section 11.19.2)**

To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 11.19.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)
Crushing	0.0054	0.0024	5.06	2.25
Screening	0.025	0.0087	23.41	8.15
Conveying	0.003	0.0011	2.81	1.03
<b>Limited Potential to Emit (tons/yr) =</b>			<b>31.27</b>	<b>11.42</b>

**Appendix A: Emissions Calculations  
Fugitive Dust Emissions - Unpaved Roads**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

**Unpaved Roads at Industrial Site**

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Maximum Annual Asphalt Production =	1,971,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,872,450	tons/yr
Maximum Asphalt Cement/Binder Throughput =	98,550	tons/yr
Maximum No. 2 Fuel Oil Usage =	4,692,857	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	8.4E+04	3.3E+06	300	0.057	4749.5
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	8.4E+04	1.4E+06	300	0.057	4749.5
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	2.7E+03	1.3E+05	300	0.057	155.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.7E+03	3.3E+04	300	0.057	155.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	5.0E+02	2.2E+04	300	0.057	28.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	5.0E+02	5.9E+03	300	0.057	28.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	4.5E+05	8.6E+06	300	0.057	25330.8
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	4.5E+05	6.7E+06	300	0.057	25330.8
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	8.2E+04	3.4E+06	300	0.057	4666.2
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	8.2E+04	1.4E+06	300	0.057	4666.2
<b>Total</b>					<b>1.2E+06</b>	<b>2.5E+07</b>			<b>7.0E+04</b>

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.057	miles/trip

Unmitigated Emission Factor,  $E_f = k \cdot [(s/12)^a] \cdot [(W/3)^b]$  (Equation 1a from AP-42 13.2.2)

where k =	PM	PM10	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.9	1.5	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	4.8	4.8	= constant (AP-42 Table 13.2.2-2)
W =	0.7	0.9	= constant (AP-42 Table 13.2.2-2)
b =	20.3	20.3	tons = average vehicle weight (provided by source)
	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E \cdot [(365 - P)/365]$

Mitigated Emission Factor, $E_{ext} = E \cdot [(365 - P)/365]$	
where P =	125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

Unmitigated Emission Factor, $E_f =$	PM	PM10	lb/mile
Mitigated Emission Factor, $E_{ext} =$	6.09	1.55	lb/mile
Dust Control Efficiency =	4.01	1.02	lb/mile
	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	14.47	3.69	9.52	2.43	4.76	1.21
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	14.47	3.69	9.52	2.43	4.76	1.21
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.474	0.121	0.312	0.079	0.156	0.040
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.474	0.121	0.312	0.079	0.156	0.040
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.086	0.022	0.056	0.014	0.028	0.007
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.086	0.022	0.056	0.014	0.028	0.007
Aggregate/RAP Loader Full	Front-end loader (3 CY)	77.20	19.67	50.76	12.94	25.38	6.47
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	77.20	19.67	50.76	12.94	25.38	6.47
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	14.22	3.62	9.35	2.38	4.68	1.19
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	14.22	3.62	9.35	2.38	4.68	1.19
<b>Totals</b>		<b>212.90</b>	<b>54.26</b>	<b>139.99</b>	<b>35.68</b>	<b>69.99</b>	<b>17.84</b>

**Methodology**

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]  
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [Percent Asphalt Cement/Binder (weight %)]  
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]  
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]  
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] \* [Maximum trips per year (trip/yr)]  
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]  
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] \* [Maximum one-way distance (mi/trip)]  
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]  
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]  
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Unmitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Mitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) \* (1 - Dust Control Efficiency)

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PTE = Potential to Emit

**Appendix A: Emissions Calculations  
Fugitive Dust Emissions - Paved Roads**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

**Paved Roads at Industrial Site**

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Maximum Annual Asphalt Production =	1,971,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,872,450	tons/yr
Maximum Asphalt Cement/Binder Throughput =	98,550	tons/yr
Maximum No. 2 Fuel Oil Usage =	4,692,857	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	8.4E+04	3.3E+06	300	0.057	4749.5
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	8.4E+04	1.4E+06	300	0.057	4749.5
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	2.7E+03	1.3E+05	300	0.057	155.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.7E+03	3.3E+04	300	0.057	155.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	5.0E+02	2.2E+04	300	0.057	28.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	5.0E+02	5.9E+03	300	0.057	28.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	4.5E+05	8.6E+06	300	0.057	25330.8
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	4.5E+05	6.7E+06	300	0.057	25330.8
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	8.2E+04	3.4E+06	300	0.057	4666.2
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	8.2E+04	1.4E+06	300	0.057	4666.2
<b>Total</b>					<b>1.2E+06</b>	<b>2.5E+07</b>			<b>7.0E+04</b>

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.057	miles/trip

Unmitigated Emission Factor,  $E_f = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C]$  (Equation 1 from AP-42 13.2.1)

	PM	PM10	
where k =	0.082	0.016	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-3)
sL =	0.6	0.6	g/m <sup>2</sup> = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summ)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E * [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$		
where p =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365	days per year

	PM	PM10	
Unmitigated Emission Factor, $E_f =$	0.66	0.13	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.60	0.12	lb/mile
Dust Control Efficiency =	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	1.56	0.30	1.43	0.28	0.71	0.14
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	1.56	0.30	1.43	0.28	0.71	0.14
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.051	0.010	0.047	0.009	0.023	4.5E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.051	0.010	0.047	0.009	0.023	4.5E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	9.3E-03	1.8E-03	8.5E-03	1.6E-03	4.2E-03	8.2E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	9.3E-03	1.8E-03	8.5E-03	1.6E-03	4.2E-03	8.2E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	8.33	1.62	7.62	1.48	3.81	0.74
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	8.33	1.62	7.62	1.48	3.81	0.74
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	1.53	0.30	1.40	0.27	0.70	0.14
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	1.53	0.30	1.40	0.27	0.70	0.14
<b>Totals</b>		<b>22.98</b>	<b>4.47</b>	<b>21.01</b>	<b>4.09</b>	<b>10.50</b>	<b>2.04</b>

**Methodology**

- Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]
- Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [Percent Asphalt Cement/Binder (weight %)]
- Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
- Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
- Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] \* [Maximum trips per year (trip/yr)]
- Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
- Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] \* [Maximum one-way distance (mi/trip)]
- Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
- Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
- Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Unmitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)
- Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Mitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)
- Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) \* (1 - Dust Control Efficiency)

**Abbreviations**

- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- PTE = Potential to Emit

**Appendix A: Emissions Calculations  
Cold Mix Asphalt Production and Stockpiles**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Maximum Annual Asphalt Production = 1,971,000 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Asphalt Cement/Binder Throughput = 98,550 tons/yr

**Volatile Organic Compounds**

	Maximum weight % of VOC solvent in binder	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Usage (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	24933.2	23686.5
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	28185.3	19729.7
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	19710.0	4927.5
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	14782.5	6859.1
Other asphalt with solvent binder	25.9%	2.5%	25524.5	638.1
<b>Worst Case PTE of VOC =</b>				<b>23686.5</b>

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
<b>PTE of Total HAPs (tons/yr) =</b>	<b>6178.31</b>
<b>PTE of Single HAP (tons/yr) =</b>	<b>2131.78 Xylenes</b>

**Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents\***

Volatile Organic HAP	CAS#	Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
		Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
<b>Total Organic HAPs</b>		<b>26.08%</b>	<b>0.33%</b>	<b>1.29%</b>	<b>0.68%</b>	<b>0.19%</b>
<b>Worst Single HAP</b>		<b>9.00%</b>	<b>0.31%</b>	<b>0.50%</b>	<b>0.23%</b>	<b>0.07%</b>
		<b>Xylenes</b>	<b>Naphthalene</b>	<b>Xylenes</b>	<b>Xylenes</b>	<b>Chrysene</b>

**Methodology**

Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [Percent Asphalt Cement/Binder (weight %)]  
 Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] \* [Maximum Weight % of VOC Solvent in Binder]  
 PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] \* [Maximum VOC Solvent Usage (tons/yr)]  
 PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] \* [Worst Case Limited PTE of VOC (tons/yr)]  
 PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] \* [Worst Case Limited PTE of VOC (tons/yr)]

\*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tp.htm>

**Abbreviations**

VOC = Volatile Organic Compounds  
 PTE = Potential to Emit

**Appendix A: Emissions Calculations  
Gasoline Fuel Transfer and Dispensing Operation**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, emission factors from AP-42 Table 5.2-7 were used. Assuming the worst case throughput of 1,300 gallons of gasoline per day (474.5 kgal per year) and 365 days of operation per year, the total potential emission of VOC is as follows:

$$\begin{aligned} \text{Gasoline Throughput} &= 1,300 \text{ gallons/day} \\ &= 474.5 \text{ kgal/yr} \end{aligned}$$

**Volatile Organic Compounds**

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.07
Tank breathing and emptying	1.0	0.24
Vehicle refueling (displaced losses - controlled)	1.1	0.26
Spillage	0.7	0.17
<b>Total</b>		<b>0.74</b>

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>0.19</b>	
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>0.07</b>	<b>Xylenes</b>

**Methodology**

Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] \* [365 days/yr] \* [kgal/1000 gal]

PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] \* [Emission Factor (lb/kgal)] \* [ton/2000 lb]

PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] \* [PTE of VOC (tons/yr)]

PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] \* [PTE of VOC (tons/yr)]

\*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tph.htm>

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Appendix A: Emissions Calculations  
Limited Emission Summary**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

**Asphalt Plant Limitations**

Annual Asphalt Production Limitation =	975,000	ton/yr
Natural Gas Limitation =	1,785	MMCF/yr
No. 2 Fuel Oil Limitation =	2,072,102	gal/yr, and
Used/Waste Oil Limitation =	1,475,374	gal/yr, and
	0.50	% sulfur
	0.75	% sulfur
	0.947	% ash
	0.200	% chlorine,
	0.0089	% lead
PM Dryer/Mixer Limitation =	0.380	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.160	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production
Cold Mix Asphalt VOC Usage Limitation =	52.5	tons/yr

**Limited/Controlled Emissions**

Process Description	Limited/Controlled Potential Emissions (tons/year)							
	Criteria Pollutants						Hazardous Air Pollutants	
	PM	PM10	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP
<b>Ducted Emissions</b>								
Fuel Combustion (worst case)	44.71	35.63	81.33	89.25	4.91	74.97	9.99	9.74 (hydrogen chloride)
Dryer/Mixer	185.25	78.00	28.28	26.81	15.60	63.38	5.20	1.51 (formaldehyde)
<b>Worst Case Emissions</b>	<b>185.25</b>	<b>78.00</b>	<b>81.33</b>	<b>89.25</b>	<b>15.60</b>	<b>74.97</b>	<b>9.99</b>	<b>9.74</b> (hydrogen chloride)
<b>Fugitive Emissions</b>								
Asphalt Load-Out, Silo Filling, On-Site Yard	0.54	0.54	0	0	8.35	1.40	0.14	0.04 (formaldehyde)
Hot Oil System	0	0	0	0	1.0E-03	0.05	1.0E-03	6.6E-04 (naphthalene)
Material Storage Piles	2.61	0.91	0	0	0	0	0	0
Material Processing and Handling	3.15	1.49	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	15.47	5.65	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	34.62	8.82	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	52.50	0	13.69	4.73 (xylenes)
Gasoline Dispensing	0	0	0	0	0.74	0	0.19	0.07 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	negl.	0	negl.	negl.
<b>Total Fugitive Emissions</b>	<b>56.39</b>	<b>17.42</b>	<b>0</b>	<b>0</b>	<b>61.59</b>	<b>1.45</b>	<b>14.03</b>	<b>4.79</b> (xylenes)
<b>Totals Limited/Controlled Emissions</b>	<b>241.64</b>	<b>95.42</b>	<b>81.33</b>	<b>89.25</b>	<b>77.19</b>	<b>76.42</b>	<b>24.02</b>	<b>9.74</b> (hydrogen chloride)

negl = negligible

**Appendix A: Emissions Calculations**  
**Limited Emissions**  
**Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

The following calculations determine the limited emissions created from the combustion of natural gas, #2 fuel oil, and used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

**Production and Fuel Limitations**

Annual Asphalt Production Limitation =	975,000	ton/yr
Natural Gas Limitation =	1,785	MMCF/yr
No. 2 Fuel Oil Limitation =	2,072,102	gal/yr, and
Used/Waste Oil Limitation =	1,475,374	gal/yr, and
	0.50	% sulfur
	0.75	% sulfur
	0.947	% ash
	0.200	% chlorine
	0.0089	% lead

**Limited Emissions**

Criteria Pollutant	Emission Factor (units)			Limited Potential to Emit (tons/yr)			
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Used/Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	60.6	1.70	2.07	44.71	44.70973
PM10	7.6	3.3	48.297	6.78	3.42	35.63	35.63
SO2	0.6	71.0	110.3	0.54	73.56	81.33	81.33
NOx	100	20.0	19.0	89.25	20.72	14.02	89.25
VOC	5.5	0.20	1.0	4.91	0.21	0.74	4.91
CO	84	5.0	5.0	74.97	5.18	3.69	74.97
<b>Hazardous Air Pollutant</b>							
HCl			13.2			9.74	9.74
Antimony			negl			negl	0.0E+00
Arsenic	2.0E-04	5.6E-04	1.1E-01	1.8E-04	5.80E-04	8.11E-02	8.1E-02
Beryllium	1.2E-05	4.2E-04	negl	1.1E-05	4.35E-04	negl	4.4E-04
Cadmium	1.1E-03	4.2E-04	9.3E-03	9.8E-04	4.35E-04	6.86E-03	6.9E-03
Chromium	1.4E-03	4.2E-04	2.0E-02	1.2E-03	4.35E-04	1.48E-02	1.5E-02
Cobalt	8.4E-05		2.1E-04	7.5E-05		1.55E-04	1.5E-04
Lead	5.0E-04	1.3E-03	0.4895	4.5E-04	1.31E-03	3.6E-01	0.36
Manganese	3.8E-04	8.4E-04	6.8E-02	3.4E-04	8.70E-04	5.02E-02	0.05
Mercury	2.6E-04	4.2E-04		2.3E-04	4.35E-04		4.4E-04
Nickel	2.1E-03	4.2E-04	1.1E-02	1.9E-03	4.35E-04	8.11E-03	0.008
Selenium	2.4E-05	2.1E-03	negl	2.1E-05	2.18E-03	negl	2.2E-03
1,1,1-Trichloroethane							0.0E+00
1,3-Butadiene							0.0E+00
Acetaldehyde							0.0E+00
Acrolein							0.0E+00
Benzene	2.1E-03			1.9E-03			1.9E-03
Bis(2-ethylhexyl)phthalate			2.2E-03			1.62E-03	1.6E-03
Dichlorobenzene	1.2E-03		8.0E-07	1.1E-03		5.90E-07	1.1E-03
Ethylbenzene							0.0E+00
Formaldehyde	7.5E-02	6.10E-02		6.7E-02	6.32E-02		0.067
Hexane	1.8E+00				1.61		1.607
Phenol			2.4E-03			1.77E-03	1.8E-03
Toluene	3.4E-03			3.0E-03			3.0E-03
Total PAH Haps	negl		3.9E-02	negl		2.88E-02	2.9E-02
Polycyclic Organic Matter		3.30E-03			3.42E-03		3.4E-03
Xylene							0.0E+00
<b>Total HAPs</b>				<b>1.68</b>	<b>0.07</b>	<b>10.29</b>	<b>11.96</b>

**Methodology**

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) \* (Emission Factor (lb/MMCF)) \* (ton/2000 lbs)  
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) \* (Emission Factor (lb/kgal)) \* (kgal/1000 gal) \* (ton/2000 lbs)  
 Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4  
 No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11  
 Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 SO2 = Sulfur Dioxide  
 NOx = Nitrous Oxides  
 VOC = Volatile Organic Compounds  
 CO = Carbon Monoxide  
 HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride  
 PAH = Polyaromatic Hydrocarbon

**Appendix A: Emissions Calculations**

**Limited Emissions**

**Dryer/Mixer**

**Volatile Organic Compounds and Hazardous Air Pollutants**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

The following calculations determine the limited emissions from the aggregate drying/mixing

Annual Asphalt Production Limitation =	975,000	ton/yr
PM Dryer/Mixer Limitation =	0.380	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.160	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM	0.38	0.38	0.38	185.3	185.3	185.3	185.3
PM10	0.16	0.16	0.16	78.0	78.0	78.0	78.0
SO2	0.0034	0.011	0.058	1.7	5.4	28.3	28.3
NOx	0.026	0.055	0.055	12.7	26.8	26.8	26.8
VOC	0.032	0.032	0.032	15.6	15.6	15.6	15.6
CO	0.13	0.13	0.13	63.4	63.4	63.4	63.4
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04			0.10	0.10
Antimony	1.80E-07	1.80E-07	1.80E-07	8.78E-05	8.78E-05	8.78E-05	8.78E-05
Arsenic	5.60E-07	5.60E-07	5.60E-07	2.73E-04	2.73E-04	2.73E-04	2.73E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.00E-04	2.00E-04	2.00E-04	2.00E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	2.68E-03	2.68E-03	2.68E-03	2.68E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.27E-05	1.27E-05	1.27E-05	1.27E-05
Lead	6.20E-07	1.50E-05	1.50E-05	3.02E-04	7.31E-03	7.31E-03	7.31E-03
Manganese	7.70E-06	7.70E-06	7.70E-06	3.75E-03	3.75E-03	3.75E-03	3.75E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	1.17E-04	1.27E-03	1.27E-03	1.27E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	3.07E-02	3.07E-02	3.07E-02	3.07E-02
Selenium	3.50E-07	3.50E-07	3.50E-07	1.71E-04	1.71E-04	1.71E-04	1.71E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	1.95E-02	1.95E-02	1.95E-02	1.95E-02
Acetaldehyde			1.30E-03			0.63	0.63
Acrolein			2.60E-05			1.27E-02	1.27E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.19	0.19	0.19	0.19
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.12	0.12	0.12	0.12
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	1.51	1.51	1.51	1.51
Hexane	9.20E-04	9.20E-04	9.20E-04	0.45	0.45	0.45	0.45
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.02	0.02	0.02	0.02
MEK			2.00E-05			0.01	0.01
Propionaldehyde			1.30E-04			0.06	0.06
Quinone			1.60E-04			0.08	0.08
Toluene	1.50E-04	2.90E-03	2.90E-03	0.07	1.41	1.41	1.41
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.09	0.43	0.43	0.43
Xylene	2.00E-04	2.00E-04	2.00E-04	0.10	0.10	0.10	0.10
<b>Total HAPs</b>							<b>5.20</b>
<b>Worst Single HAP</b>							<b>1.51125 (formaldehyde)</b>

**Methodology**

Limited/Controlled Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-7, 11.1-8, 11.1-10, and 11.1-1)

**Abbreviations**

VOC - Volatile Organic Compounds                      HAP = Hazardous Air Pollutant  
HCl = Hydrogen Chloride                                      PAH = Polyaromatic Hydrocarbon  
SO2 = Sulfur Dioxide

**Appendix A: Emissions Calculations**  
**Limited Emissions**  
**Load-Out, Silo Filling, and Yard Emissions**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

The following calculations determine the limited fugitive emissions from hot asphalt mix load-out, silo filling, and on-site yard for a batch mix hot mix asphalt plant

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	975,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM	5.2E-04	5.9E-04	NA	0.25	0.29	NA	<b>0.54</b>
Organic PM	3.4E-04	2.5E-04	NA	0.17	0.124	NA	<b>0.29</b>
TOC	0.004	0.012	0.001	2.03	5.94	0.536	<b>8.5</b>
CO	0.001	0.001	3.5E-04	0.66	0.575	0.172	<b>1.40</b>

NA = Not Applicable (no AP-42 Emission Factor)

<b>PM/HAPs</b>	<b>0.012</b>	<b>0.014</b>	<b>0</b>	<b>0.026</b>
<b>VOC/HAPs</b>	<b>0.030</b>	<b>0.076</b>	<b>0.008</b>	<b>0.113</b>
<b>non-VOC/HAPs</b>	<b>1.6E-04</b>	<b>1.6E-05</b>	<b>4.1E-05</b>	<b>2.1E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.15</b>	<b>0.08</b>	<b>0.04</b>	<b>0.27</b>

<b>Total VOCs</b>	<b>1.91</b>	<b>5.94</b>	<b>0.5</b>	<b>8.4</b>
<b>Total HAPs</b>	<b>0.04</b>	<b>0.09</b>	<b>0.008</b>	<b>0.14</b>
<b>Worst Single HAP</b>				<b>0.043</b>
				<b>(formaldehyde)</b>

**Methodology**

Limited Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16

Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14):

Total PM/PM10 Ef = 0.000181 + 0.00141(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

Organic PM Ef = 0.00141(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

TOC Ef = 0.0172(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

CO Ef = 0.00558(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):

PM/PM10 Ef = 0.000332 + 0.00105(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

Organic PM Ef = 0.00105(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

TOC Ef = 0.0504(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

CO Ef = 0.00488(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32

**Abbreviations**

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate Matter

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

**Appendix A: Emissions Calculations  
Limited Emissions  
Load-Out, Silo Filling, and Yard Emissions (continued)**

Company Name: Babcock Paving, Inc.  
Source Address: 6049 Work Street, Demotte, Indiana 46310  
Permit Number: F073-26569-00041  
Reviewer: Janet Mobley

**Organic Particulate-Based Compounds (Table 11.1-15)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
<b>PAH HAPs</b>										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	4.3E-04	5.8E-04	NA	1.0E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	4.7E-05	1.7E-05	NA	6.4E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.2E-04	1.6E-04	NA	2.8E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	3.2E-05	6.9E-05	NA	1.0E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.3E-05	0	NA	1.3E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	3.7E-06	0	NA	3.7E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	3.2E-06	0	NA	3.2E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	3.8E-06	0	NA	3.8E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.3E-05	1.2E-05	NA	2.5E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	1.7E-04	2.6E-04	NA	4.3E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	6.1E-07	0	NA	6.1E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	8.3E-05	1.9E-04	NA	2.7E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.3E-03	1.3E-03	NA	2.5E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	7.8E-07	0	NA	7.8E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	4.0E-03	6.5E-03	NA	0.010
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	2.1E-03	2.3E-03	NA	4.3E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	3.7E-05	3.7E-05	NA	7.4E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.3E-03	2.2E-03	NA	3.6E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	2.5E-04	5.4E-04	NA	7.9E-04
<b>Total PAH HAPs</b>							<b>0.010</b>	<b>0.014</b>	<b>NA</b>	<b>0.024</b>
<b>Other semi-volatile HAPs</b>										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.0E-03	0	0	2.0E-03

NA = Not Applicable (no AP-42 Emission Factor)

**Methodology**

Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] \* [Organic PM (tons/yr)]

Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

**Abbreviations**

PM = Particulate Matter  
HAP = Hazardous Air Pollutant  
POM = Polycyclic Organic Matter

**Appendix A: General Asphalt FESOP Emissions Calculations  
Limited Emissions  
Load-Out, Silo Filling, and Yard Emissions (continued)**

**Organic Volatile-Based Compounds (Table 11.1-16)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	100%	<b>1.91</b>	<b>5.94</b>	<b>0.50</b>	<b>8.35</b>
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.3E-01	1.5E-02	3.5E-02	0.182
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	9.3E-04	3.3E-03	2.5E-04	0.004
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.4E-02	6.5E-02	3.8E-03	0.084
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>1.40%</b>	<b>0.148</b>	<b>0.083</b>	<b>0.039</b>	<b>0.27</b>
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.1E-03	1.9E-03	2.8E-04	3.2E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	1.9E-04	2.9E-04	5.1E-05	5.4E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	9.9E-04	2.3E-03	2.6E-04	3.6E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	2.6E-04	9.5E-04	7.0E-05	1.3E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	4.3E-06	2.4E-04	1.1E-06	2.4E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	3.0E-04	1.4E-03	8.0E-05	1.8E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	2.2E-03	0	5.9E-04	2.8E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	5.7E-03	2.3E-03	1.5E-03	0.009
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	1.8E-03	4.1E-02	4.7E-04	0.043
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	3.0E-03	5.9E-03	8.0E-04	0.010
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	3.6E-05	1.8E-05	9.7E-06	6.5E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	1.6E-05	0	1.6E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	1.5E-04	3.2E-04	3.9E-05	5.1E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	1.6E-04	0	4.1E-05	2.0E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	4.3E-03	3.7E-03	1.1E-03	0.009
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	2.6E-05	0	7.0E-06	3.3E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	8.3E-03	1.2E-02	2.2E-03	0.022
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	1.6E-03	3.4E-03	4.3E-04	5.4E-03
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>1.30%</b>	<b>0.030</b>	<b>0.077</b>	<b>0.008</b>	<b>0.116</b>

**Methodology**

Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] \* [TOC (tons/yr)]

Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

**Abbreviations**

TOC = Total Organic Compounds

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

MTBE = Methyl tert butyl ether

**Appendix A: Emissions Calculations  
Limited Emissions**

**Fugitive Dust Emissions - Material Processing and Handling**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

**Batch or Continuous Drop Operations (AP-42 Section 13.2.4)**

To estimate potential fugitive dust emissions from processing and handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

$$E_f = k \cdot (0.0032) \cdot [(U/5)^{1.3} / (M/2)^{1.4}]$$

where:  $E_f$  = Emission factor (lb/ton)

- $k$  (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter  $\leq 100$   $\mu$ m)
- $k$  (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter  $\leq 10$   $\mu$ m)
- $U$  = 10.2 = worst case annual mean wind speed (Source: NOAA, 2005\*)
- $M$  = 4.0 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
- $E_f$  (PM) = 2.27E-03 lb PM/ton of material handled
- $E_f$  (PM10) = 1.07E-03 lb PM10/ton of material handled

Annual Asphalt Production Limitation = 975,000 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Material Handling Throughput = 926,250 tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)
Truck unloading of materials into storage piles	1.05	0.50
Front-end loader dumping of materials into feeder bins	1.05	0.50
Conveyor dropping material into dryer/mixer or batch tower	1.05	0.50
<b>Total (tons/yr)</b>	<b>3.15</b>	<b>1.49</b>

**Methodology**

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]  
 Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)  
 Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives  
 \*Worst case annual mean wind speed (South Bend, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2005

**Material Screening and Conveying (AP-42 Section 19.2.2)**

To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 19.2.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)
Crushing	0.0054	0.0024	2.50	1.11
Screening	0.025	0.0087	11.58	4.03
Conveying	0.003	0.0011	1.39	0.51
<b>Limited Potential to Emit (tons/yr) =</b>			<b>15.47</b>	<b>5.65</b>

**Appendix A: Emissions Calculations**  
**Limited Emissions**  
**Fugitive Dust Emissions - Unpaved Roads**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

**Unpaved Roads at Industrial Site**

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Annual Asphalt Production Limitation =	975,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	926,250	tons/yr
Maximum Asphalt Cement/Binder Throughput =	48,750	tons/yr
No. 2 Fuel Oil Limitation =	2,072,102	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	4.1E+04	1.6E+06	300	0.057	2349.5
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	4.1E+04	7.0E+05	300	0.057	2349.5
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.4E+03	6.5E+04	300	0.057	76.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.4E+03	1.6E+04	300	0.057	76.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.2E+02	9.6E+03	300	0.057	12.4
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.2E+02	2.6E+03	300	0.057	12.4
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	2.2E+05	4.2E+06	300	0.057	12530.4
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	2.2E+05	3.3E+06	300	0.057	12530.4
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	4.1E+04	1.7E+06	300	0.057	2308.2
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	4.1E+04	6.9E+05	300	0.057	2308.2
<b>Total</b>					<b>6.1E+05</b>	<b>1.2E+07</b>			<b>3.5E+04</b>

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.057	miles/trip

Unmitigated Emission Factor,  $E_f = k \cdot [(s/12)^a] \cdot [(W/3)^b]$  (Equation 1a from AP-42 13.2.2)

	PM	PM10	
where k =	4.9	1.5	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E \cdot [(365 - P)/365]$   
 Mitigated Emission Factor,  $E_{ext} = E \cdot [(365 - P)/365]$   
 where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	
Unmitigated Emission Factor, $E_f =$	6.09	1.55	lb/mile
Mitigated Emission Factor, $E_{ext} =$	4.01	1.02	lb/mile
Dust Control Efficiency =	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	7.16	1.82	4.71	1.20	2.35	0.60
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	7.16	1.82	4.71	1.20	2.35	0.60
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.234	0.060	0.154	0.039	0.077	0.020
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.234	0.060	0.154	0.039	0.077	0.020
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.038	0.010	0.025	0.006	0.012	0.003
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.038	0.010	0.025	0.006	0.012	0.003
Aggregate/RAP Loader Full	Front-end loader (3 CY)	38.19	9.73	25.11	6.40	12.55	3.20
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	38.19	9.73	25.11	6.40	12.55	3.20
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	7.03	1.79	4.63	1.18	2.31	0.59
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	7.03	1.79	4.63	1.18	2.31	0.59
<b>Totals</b>		<b>105.30</b>	<b>26.84</b>	<b>69.24</b>	<b>17.65</b>	<b>34.62</b>	<b>8.82</b>

**Methodology**

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]  
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [Percent Asphalt Cement/Binder (weight %)]  
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]  
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]  
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] \* [Maximum trips per year (trip/yr)]  
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]  
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] \* [Maximum one-way distance (mi/trip)]  
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]  
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]  
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Unmitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Mitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) \* (1 - Dust Control Efficiency)

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PTE = Potential to Emit

**Appendix A: Emissions Calculations  
Limited Emissions  
Fugitive Dust Emissions - Paved Roads**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

**Paved Roads at Industrial Site**

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Annual Asphalt Production Limitation =	975,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	926,250	tons/yr
Maximum Asphalt Cement/Binder Throughput =	48,750	tons/yr
No. 2 Fuel Oil Limitation =	2,072.102	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	4.1E+04	1.6E+06	300	0.057	2349.5
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	4.1E+04	7.0E+05	300	0.057	2349.5
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.4E+03	6.5E+04	300	0.057	76.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.4E+03	1.6E+04	300	0.057	76.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.2E+02	9.6E+03	300	0.057	12.4
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.2E+02	2.6E+03	300	0.057	12.4
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	2.2E+05	4.2E+06	300	0.057	12530.4
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	2.2E+05	3.3E+06	300	0.057	12530.4
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	4.1E+04	1.7E+06	300	0.057	2308.2
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	4.1E+04	6.9E+05	300	0.057	2308.2
<b>Total</b>					<b>6.1E+05</b>	<b>1.2E+07</b>			<b>3.5E+04</b>

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.057	miles/trip

Unmitigated Emission Factor,  $E_f = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C]$  (Equation 1 from AP-42 13.2.1)

	PM	PM10	
where k =	0.082	0.016	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	g/m <sup>2</sup> = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E * [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$	
where p =	125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365 days per year

Unmitigated Emission Factor, $E_f =$	PM	PM10	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.66	0.13	lb/mile
Dust Control Efficiency =	0.60	0.12	lb/mile
	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.77	0.15	0.71	0.14	0.35	0.07
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.77	0.15	0.71	0.14	0.35	0.07
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.025	0.005	0.023	0.005	0.012	2.3E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.025	0.005	0.023	0.005	0.012	2.3E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	4.1E-03	8.0E-04	3.7E-03	7.3E-04	1.9E-03	3.6E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	4.1E-03	8.0E-04	3.7E-03	7.3E-04	1.9E-03	3.6E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	4.12	0.80	3.77	0.73	1.88	0.37
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	4.12	0.80	3.77	0.73	1.88	0.37
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.76	0.15	0.69	0.14	0.35	0.07
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.76	0.15	0.69	0.14	0.35	0.07
<b>Totals</b>		<b>11.36</b>	<b>2.21</b>	<b>10.39</b>	<b>2.02</b>	<b>5.20</b>	<b>1.01</b>

**Methodology**

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [1 - Percent Asphalt Cement/Binder (weight %)]  
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] \* [Percent Asphalt Cement/Binder (weight %)]  
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]  
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]  
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] \* [Maximum trips per year (trip/yr)]  
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]  
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] \* [Maximum one-way distance (mi/trip)]  
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]  
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]  
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Unmitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) \* (Mitigated Emission Factor (lb/mile)) \* (ton/2000 lbs)  
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) \* (1 - Dust Control Efficiency)

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PTE = Potential to Emit

**Appendix A: Emissions Calculations  
Cold Mix Asphalt Production and Stockpiles**

**Company Name:** Babcock Paving, Inc.  
**Source Address:** 6049 Work Street, Demotte, Indiana 46310  
**Permit Number:** F073-26569-00041  
**Reviewer:** Janet Mobley

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Cold Mix Asphalt VOC Usage Limitation = **52.5** tons/yr

**Volatile Organic Compounds**

	Maximum weight % of VOC solvent in binder	Weight % VOC solvent in binder that evaporates	VOC Solvent Usage Limitation (tons/yr)	Limited PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	55.3	52.5
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	75.0	52.5
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	210.0	52.5
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	113.1	52.5
Other asphalt with solvent binder	25.9%	2.5%	2100.0	52.5
<b>Worst Case Limited PTE of VOC =</b>				<b>52.5</b>

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	<b>26.08%</b>	
Worst Case Single HAP Content of VOC solvent (weight %)* =	<b>9.0%</b>	<b>Xylenes</b>
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>13.69</b>	
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>4.73</b>	<b>Xylenes</b>

**Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents**

	CAS#	Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
		Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
Volatile Organic HAP						
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
<b>Total Organic HAPs</b>		<b>26.08%</b>	<b>0.33%</b>	<b>1.29%</b>	<b>0.68%</b>	<b>0.19%</b>
<b>Worst Single HAP</b>		<b>9.00%</b>	<b>0.31%</b>	<b>0.50%</b>	<b>0.23%</b>	<b>0.07%</b>
		<b>Xylenes</b>	<b>Naphthalene</b>	<b>Xylenes</b>	<b>Xylenes</b>	<b>Chrysene</b>

**Methodology**

Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] \* [VOC Solvent Usage Limitation (tons/yr)]

Limited PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] \* [Worst Case Limited PTE of VOC (tons/yr)]

Limited PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] \* [Worst Case Limited PTE of VOC (tons/yr)]

\*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at:

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

*Minor Source Criteria Pollutant Modeling  
Screening Form - Raw Data*

**Permit Summary**

Permit Number: 073-26569-00041  
 Company Name: Babcock Paving, Inc.  
 Source Location: 6049 Work Street, Demotte, Indiana 46310  
 County: Jasper  
 SIC Code: 2951  
 Permit Reviewer: Janet Mobley

**Source Specific Information**

**TABLE 1 - Pollutant Emission Rates (lb/hr) - based on the highest allowable emissions rate**

Unit ID	Stack ID	CO	NO <sub>x</sub>	PM <sub>10</sub>	Pb	SO <sub>2</sub>
Asphalt Plant(EU1	S1	0	20.37671233	21.78538813	0.00166895	18.56849315
<i>Max. Emissions Rate (lb/hr):</i>		0	20.37671233	21.78538813	0.00166895	18.56849315

**TABLE 2 - Stack Information: (all heights are from ground level)**

For non-circular stacks, take the average of the stack dimensions as the stack diameter.  
 If there is no building near the stack, zero out the building height, width, and length.

Stack ID	Stack Height (ft)	Flow Rate (acfm)	Stack Temp. (°F)	Stack Diameter (ft)	Closest building related to stack:			Closest Property Line (ft)
					Height (ft)	Width (ft)	Length (ft)	
S1	27.2	45000	300	4	16	39	36.5	600
0								
0								
0								
0								

*Minor Source Criteria Pollutant Modeling*  
**SCREEN3 Data**

**Permit Summary**

Permit Number: 073-26569-00041  
 Company Name: Babcock Paving, Inc.  
 Source Location: 6049 Work Street, Demotte, Indiana 46310  
 County: Jasper  
 SIC Code: 2951  
 Permit Reviewer: Janet Mobley

**SCREEN3 Modeling Data**

**TABLE 3 - Pollutant Modeling Data - grams per second**

Pollutant:	CO	NO <sub>x</sub>	PM <sub>10</sub>	Pb	SO <sub>2</sub>
<i>Totals (g/s):</i>	0	2.567465754	2.744958904	0.000210288	2.339630137

**TABLE 4 - Stack Modeling Data**

The M-Value is calculated using a unit emission rate of 1 g/s.  
 The stack with the lowest M value represents the lowest dispersion coefficient and should be modeled.

Stack ID	Stack Height (m)	Stack Gas Velocity (m/s)	Stack Temp. (K)	Stack Diameter (m)	Closest building related to stack			Closest Property Line (m)	Volumetric Flow Rate (m <sup>3</sup> /s)	Stack M-Value
					Height (m)	Width (m)	Length (m)			
S1	8.292682927	18.2052975	422.04	1.219512195	4.87804878	11.8902439	11.12804878	182.9268293	21.26478384	63715.5317
0	0	#DIV/0!	255.37	0	0	0	0	0	#DIV/0!	#DIV/0!
0	0	#DIV/0!	255.37	0	0	0	0	0	#DIV/0!	#DIV/0!
0	0	#DIV/0!	255.37	0	0	0	0	0	#DIV/0!	#DIV/0!
0	0	#DIV/0!	255.37	0	0	0	0	0	#DIV/0!	#DIV/0!

*Minor Source Criteria Pollutant Modeling  
Screening Form - Modeling Results*

**Permit Summary**

Permit Number: 073-26569-00041  
 Company Name: Babcock Paving, Inc.  
 Source Location: 6049 Work Street, Demotte, Indiana 46310  
 County: Jasper  
 SIC Code: 2951  
 Permit Reviewer: Janet Mobley

**Modeling Method**

Model Used (please check one):

SCREEN3     AERSCREEN  
 ISC3     AERMOD

Date Modeling Completed: 7/28/2008

Modeler: \_\_\_\_\_

**Modeling Results**

**TABLE 5 - Pollutants Modeling Results: 1 Hour Concentration ( $\mu\text{g}/\text{m}^3$ ):**

The modeled concentrations in this table are the 1-hour concentrations for each pollutant. Use tables 6 and 7 to compare the modeled data to the air quality standard.

Pollutant:	CO	NO <sub>x</sub>	PM <sub>10</sub>	Pb	SO <sub>2</sub>
Concentration ( $\mu\text{g}/\text{m}^3$ ):					

**TABLE 6 - Pollutants Maximum Concentration ( $\mu\text{g}/\text{m}^3$ ):**

Averaging Period	CO	NO <sub>x</sub>	PM <sub>10</sub>	Pb	SO <sub>2</sub>
1-hour modeled concentration	0				
<b>NAAQ Standard</b>	<b>40000</b>				
<b>PASS or FAIL</b>	PASS				
3-hour modeled concentration					0
<b>NAAQ Standard</b>					<b>1300</b>
<b>PASS or FAIL</b>					PASS
8-hour modeled concentration	0				
<b>NAAQ Standard/CEP Benchmark</b>	<b>10000</b>				
<b>PASS or FAIL</b>	PASS				
24-hour modeled concentration			0	0	0
<b>NAAQ Standard</b>			<b>150</b>	<b>1.5</b>	<b>365</b>
<b>PASS or FAIL</b>			PASS	PASS	PASS
Annual modeled concentration		0	0		0
<b>NAAQ Standard/CEP Benchmark</b>		<b>100</b>	<b>50</b>		<b>80</b>
<b>PASS or FAIL</b>		PASS	PASS		PASS