



# 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: April 14, 2008

RE: Milestone Contractors / 109-25533-03229

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



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
(317) 232-8603  
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Mr. Robert J. Beyke  
Milestone Contractors, L.P.  
5950 S. Belmont Ave.  
Indianapolis, IN 46217

April 14, 2008

Re: 109-25533-03229  
Second Significant Revision to  
FESOP 109-20545-03229

Dear Mr. Beyke:

Milestone Contractors, L.P. was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. 109-20545-03229 on September 7, 2005 for a stationary hot mix asphalt production source located at 9790 Old State Road 37 North, Martinsville, Indiana 46151. On November 14, 2007, the Office of Air Quality (OAQ) received an application from the source requesting:

- (1) reductions in waste oil input limits and asphalt output limits so that the requirement for VOC and CO stack exhaust testing on the emissions from the drum mixer, EU B-1, and aggregate dryer, EU B-2, may be removed from the permit and
- (2) the FESOP Renewal permit term be extended to ten (10) years.

The attached Technical Support Document (TSD) provides additional explanation of the changes to the source/permit. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Sandra Carr, of my staff, at 317-234-5377 or 1-800-451-6027, and ask for extension 4-5377

Original signed by,

Matthew Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

Milestone Contractors, L.P.  
Martinsville, Indiana  
Permit Reviewer: Sandra Carr

Page 2 of 2  
FESOP SPR No. 109-25533-03229

Attachments: Technical Support Document and revised permit

MS/sec

cc: File - Morgan County  
U.S. EPA, Region V  
Morgan County Health Department  
Air Compliance Section Inspector  
Compliance Branch  
Administrative and Development Section  
Technical Support and Modeling  
Vice President, Asphalt Plants



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## FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) RENEWAL OFFICE OF AIR QUALITY

**Milestone Contractors, L.P.  
9790 Old State Road 37 North  
Martinsville, Indiana 46151**

(herein known as the Permittee) is hereby authorized to 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 provision of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; and 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.

Operation Permit No.: F109-20545-03229	
Issued by: Paul Dubenetzky, Chief Permits Branch Office of Air Quality	Issuance Date: September 7, 2005  Expiration Date: September 7, 2015

Administrative Amendment: 109-22743-03229, issued on March 20, 2006  
Significant Permit Revision: 109-23689-03229, issued on March 5, 2007

Second Significant Permit Revision: SPR 109-25533-03229	Pages affected: Entire permit
Original signed by:  Matthew Stuckey, Branch Chief Permits Branch Office of Air Quality	Issuance Date: April 14, 2008  Expiration Date: September 7, 2015

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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 hot mix asphalt production source.

Source Address:	9790 Old State Road 37 North, Martinsville, Indiana 46151
Mailing Address:	5950 S. Belmont Avenue, Indianapolis, Indiana 46217
General Source Phone:	317 788-6885
SIC Code:	2951
Source Location Status:	Morgan Nonattainment for PM <sub>2.5</sub> Attainment for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD and Emission Offset Rules Not one of the 28 listed 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 mixer, identified as EU B-1, constructed in 2007, and one (1) aggregate dryer/burner, identified as EU B-2, installed in 1965 and replaced in kind in 1999 due to age, with a capacity: 250 tons of asphalt per hour. The dryer is equipped with one (1) waste oil-fired burner with a maximum rating of 75.0 million British thermal units per hour (MMBtu/hr), using natural gas and No. 2 fuel oil as backup fuels, and one (1) baghouse for particulate control, exhausting through Stack S-1.

Under 40 CFR 60, Subpart I, this is considered an affected hot mix asphalt facility.

- (b) One (1) recycled asphalt pavement (RAP) processing and conveying system, including two 20 ton storage bins, with a capacity of 70 tons of RAP per hour.

### A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

---

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) One (1) hot oil heater, burning No. 2 fuel oil or natural gas, installed in 1999, rated at 2.0 million British thermal units per hour (MMBtu/hr), exhausting through Stack S-2.
- (b) One (1) cold mix feed system consisting of eight (8) compartments, each with a capacity of 25 tons, with a total aggregate holding capacity of 200 tons.
- (c) Cold-mix (stockpile mix) asphalt storage pile(s) with maximum capacity of 800 tons.
- (d) Two (2) liquid asphalt storage tanks, identified as Tanks 7 & 8, constructed in January 1984, each with a capacity of 20,000 gallons, vented to the atmosphere through V-2 & V-3, respectively.

- (e) One (1) used oil storage tank, constructed in January 1984, identified as Tank 6, capacity: 10,000 gallons, vented to the atmosphere through V-1..
- (f) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons, including
  - (1) Two (2) diesel fuel tanks, identified as Tanks 10 and 11, approved for construction in 2007, capacity: 500 gallons, each.
  - (2) One (1) fuel oil storage tank, constructed in January 1984, identified as Tank 9, with a maximum capacity: 300 gallons, exhausting at one (1) stack, identified as V-5.
- (g) Two (2) hot mix asphalt cement storage silos and slat conveyors, storage capacity: 265 tons, each.
- (h) The following VOC and HAP storage containers: vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (i) Application of oils, greases lubricants or other nonvolatile materials applied as temporary protective coatings.
- (j) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
- (k) Paved roads and parking lots with public access.

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) to renew a Federally Enforceable State Operating Permit (FESOP).

## **SECTION B GENERAL CONDITIONS**

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

---

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

- 
- (a) This permit, 109-20545-03229, is issued for a fixed term of ten (10) 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.3 Term of Conditions [326 IAC 2-1.1-9.5]**

---

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.4 Enforceability [326 IAC 2-8-6]**

---

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.5 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.6 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.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]**

- 
- (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.8 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.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (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. All 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.10 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.11 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 maintain and implement Preventive Maintenance Plans (PMPs) 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.
- (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.12 Emergency Provisions [326 IAC 2-8-12]

- (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.

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

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- (a) All terms and conditions of permits established prior to 109-20545-03229 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.14 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.15 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.16 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.17 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.18 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.19 Operational Flexibility [326 IAC 2-8-15] [326 IAC 2-8-11.1]**

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- (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.20 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.21 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.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]**

---

- (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.23 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]**

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

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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

### Emissions 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 one hundred (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. This limitation shall also satisfy the requirements of 326 IAC 2-3 (Emission Offset);
- (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) Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 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.

(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 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(3)]

---

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and in 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 November 15, 1999. The plan is included as Attachment A.

C.8 Stack Height [326 IAC 1-7]

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The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

C.9 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 the "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 Accredited 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 Accredited 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.10 Performance Testing [326 IAC 3-6]**

---

- (a) 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 the "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 the "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.11 Compliance Requirements [326 IAC 2-1.1-11]**

---

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

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Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented upon issuance of this permit. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

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

#### **C.13 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.14 Pressure Gauge and Other 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.15 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]**

---

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 ninety (90) days from the date of issuance of this permit.

The ERP does require the certification by the "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.16 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.17 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]**

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(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;
  - (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.18 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 the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

**C.19 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.20 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 the "authorized individual" as defined by 326 IAC2-1.1-1(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 the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) 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.21 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

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-8-4(10)]: Asphalt Production

- (a) One (1) drum mixer, identified as EU B-1, constructed in 2007, and one (1) aggregate dryer/burner, identified as EU B-2, installed in 1965 and replaced in kind in 1999 due to age, with a capacity: 250 tons of asphalt per hour. The dryer is equipped with one (1) waste oil-fired burner with a maximum rating of 75.0 million British thermal units per hour (MMBtu/hr), using natural gas and No. 2 fuel oil as backup fuels, and one (1) baghouse for particulate control, exhausting through Stack S-1.

Under 40 CFR 60, Subpart I, this is considered an affected hot mix asphalt facility.

- (b) One (1) recycled asphalt pavement (RAP) processing and conveying system, including two 20 ton storage bins, with a capacity of 70 tons of RAP per hour.

(The information describing the process contained in this facility 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<sub>10</sub>) [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-3]

- (a) The PM emissions from the drum mixer and aggregate dryer/burner and shall be less than 0.197 pound per ton of asphalt processed and the amount of asphalt processed shall not exceed 1,320,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This limit shall render the requirements of 326 IAC 2-2, PSD, not applicable.
- (b) The PM<sub>10</sub> emissions from the drum mixer and aggregate dryer/burner shall be less than 0.092 pound per ton of asphalt processed and the amount of asphalt processed shall not exceed 1,320,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This limit shall render the requirements of 326 IAC 2-8, Part 70, and 326 IAC 2-3, Emission Offset, not applicable.

Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM<sub>10</sub>), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM<sub>10</sub> emissions as surrogate for PM<sub>2.5</sub> emissions.

#### D.1.2 Carbon Monoxide (CO) [326 IAC 2-8-4] [326 IAC 2-2]

The CO emissions from the drum mixer and aggregate dryer/burner shall be less than 0.13 pound per ton of asphalt processed and the amount of asphalt processed shall not exceed 1,320,000 tons per-twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limitations, combined with the limits and emissions from other emission units at this source, will satisfy 326 IAC 2-8-4 (FESOP), and will render 326 IAC 2-7, Part 70, and 326 IAC 2-2, PSD, not applicable.

#### D.1.3 Sulfur Dioxide (SO<sub>2</sub>) [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, the input of waste oil to the aggregate dryer/burner shall be less than 1,439,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

D.1.4 Volatile Organic Compounds [326 IAC 8-5-2] [326 IAC 8-1-6] [326 IAC 2-8-4] [326 IAC 2-2]

- (a) Pursuant to 326 IAC 8-5-2, the Permittee 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:
- (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.
- (b) The VOC emissions from the drum mixer and aggregate dryer/burner shall be less than 0.032 pound per ton of asphalt processed and the amount of asphalt processed shall not exceed 1,320,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this shall limit the potential VOC emissions to less than twenty-five (25) tons per year from the drum mixer and aggregate dryer/burner and shall render the requirements of 326 IAC 8-1-6, New facilities; General reduction requirements, not applicable.

- (c) 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.

Compliance with this shall limit the VOC emitted from solvent use in cold mix production to 50 tons per twelve (12) consecutive month period so that source-wide VOC emissions are limited to less than 90 tons per year.

D.1.5 Sulfur Dioxide (SO<sub>2</sub>) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

- (a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 75 million Btu per hour burner for the aggregate dryer/mixer shall be limited to one-half (0.5) pounds per million Btu heat input or a sulfur content of less than or equal to one-half percent (0.5%) by weight when using distillate oil (No. 2 fuel oil).
- (b) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 75 million Btu per hour burner for the aggregate dryer/mixer shall be limited to one and six-tenths (1.6) pounds per million Btu heat input or a sulfur content of less than or equal to one and five-tenths percent (1.5 %) by weight when using waste oil. The source has accepted a sulfur content limit of seventy-five hundredths percent (0.75%) for residual oil (waste oil).
- (c) Pursuant to 326 IAC 7-2-1, compliance with the sulfur content limits shall be demonstrated on a calendar month average.

For the purpose of determining compliance with this limit:

- (1) Every 0.19 million cubic feet of natural gas (MMCF) shall be equivalent to one (1) gallon of waste oil. However, the natural gas usage shall in no case exceed 625 million cubic feet per twelve (12) consecutive month period.

- (2) Every 1.55 gallons of No. 2 fuel oil shall be equivalent to one (1) gallon of waste oil. However, the No. 2 fuel oil usage shall in no case exceed 2,325,000 gallons per twelve (12) consecutive month period.

Compliance with these limits, combined with the SO<sub>2</sub> emissions from other units at the source, will limit source-wide SO<sub>2</sub> emissions to less than 90 tons per twelve (12) consecutive month period. Compliance with these limits will render 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-2 (PSD) not applicable.

#### D.1.6 Hydrogen Chloride (HCl) [326 IAC 2-8-4]

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These limits are required in order to limit the source-wide emissions of HCl to less than 9.5 tons per year.

- (1) The use of waste oil in the 75 MMBtu per hour burner for the aggregate dryer/burner shall be limited to less than 1,439,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) The chlorine content of the waste oil used in the 75 MMBtu per hour burner for the aggregate dryer shall not exceed two tenths of a percent (0.20%) by weight.
- (3) The HCl emissions from the in the 75 MMBtu per hour burner for the aggregate dryer shall be limited to less than 13.2 pounds of HCl per 1,000 gallons of waste oil burned.

Compliance with these limits will also limit source-wide emissions of combined HAPs to less than 25 tons per year. Therefore, compliance with these limits renders 326 IAC 2-7 (Part 70) not applicable.

#### D.1.7 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 drum mixer, identified as EU B-1, and aggregate dryer/burner, identified as EU B-2, and their control devices.

### Compliance Determination Requirements

#### D.1.8 Testing Requirements [326 IAC 2-8-5(1), (4)] [326 IAC 2-1.1-11]

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Within 180 days of startup of the drum mixer and aggregate dryer/burner, in order to demonstrate compliance with Conditions D.1.1, the Permittee shall perform PM, and PM<sub>10</sub> testing of the drum mixer and aggregate dryer/burner stack exhaust, S-1, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. PM<sub>10</sub> includes filterable and condensable PM<sub>10</sub>. Testing shall be conducted in accordance with Section C - Performance Testing.

#### D.1.9 Sulfur Dioxide Emissions and Sulfur Content

---

Compliance with Conditions D.1.3 and D.1.5 shall be determined utilizing one (1) of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the content does not exceed seventy-five-hundredths percent (0.75%) and the sulfur dioxide emissions do not exceed and one and six-tenths (1.6) pounds per million British thermal units heat input by:
  - (1) Providing vendor analysis 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 75 million British thermal units per hour dryer/burner, identified as EU B-2, 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.

#### D.1.10 Particulate Control

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- (a) In order to comply with Condition D.1.1, the baghouse for particulate control shall be in operation and control emissions from the drum mixer, identified as EU B-1, and aggregate dryer/ burner, identified as EU B-2, at all times that the drum mixer and aggregate dryer/burner are 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.1.11 Hydrogen Chloride (HCl) Emissions and Chlorine Content

---

In order to comply with Condition D.1.6, the Permittee shall demonstrate that the chlorine content of the fuel used for the aggregate dryer/burner does not exceed two tenths of a percent (0.20%) by weight, when operating on waste oil, by providing a vendor analysis of fuel delivered if accompanied by a vendor certification.

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

#### D.1.12 Visible Emissions Notations

---

- (a) Visible emission notations of each of the conveyors, material transfer points, drum mixer and dryer/burner stack exhaust, S-1, 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.1.13 Baghouse Parametric Monitoring

---

- (a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the drum mixer, identified as EU B-1, and aggregate dryer/burner, identified as EU B-2, at least once per day when the asphalt production process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 to 8.0 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 are outside the above mentioned ranges 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 Permittee shall record the inlet temperature to 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 inlet temperature to the baghouse is outside the normal range of 200 and 400 degrees Fahrenheit 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. This is required to prevent overheating of the bags and to prevent low temperatures from mudding up the bags. A temperature 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.
- (c) 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.1.14 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 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).

Bag failure can be indicated by a significant drop in the baghouses 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 Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

### **D.1.15 Record Keeping Requirements**

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- (a) To document compliance with Conditions D.1.3 and D.1.5 the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly and shall be complete and sufficient to establish compliance with the waste oil usage limit and the waste oil sulfur content limit established in Conditions D.1.3.
- (1) Calendar dates covered in the compliance determination period;
  - (2) Actual fuel usage since last compliance determination period and equivalent sulfur dioxide emissions;
  - (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. A natural gas-fired boiler certification does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1); and
- If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
- (4) Fuel supplier certifications;
  - (5) The name of the fuel supplier; and
  - (6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil, or waste oil, and a statement from the fuel supplier that certifies the chlorine content of the waste oil;
- (b) To document compliance with Condition D.1.12, the Permittee shall maintain once per day records of the visible emission notations from each of the conveyors, material transfer points, drum mixer and dryer/burner stack exhaust, S-1. 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).
- (c) To document compliance with Condition D.1.13, the Permittee shall maintain the following:
- (1) Daily records of the pressure drop across the baghouse controlling the drum mixer and aggregate dryer/burner. 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 aggregate dryer/mixer did not operate that day).
  - (2) Records of the inlet temperature at the baghouse during normal operation once per day. The Permittee shall include in its daily record when a temperature reading is not taken and the reason for the lack of a temperature reading, (e.g., the drum mixer and aggregate dryer/burner did not operate that day).
- (d) To document compliance with Conditions D.1.1, D.1.2, and D.1.4, the Permittee shall maintain records of the amount of asphalt processed on a monthly basis.

- (e) To document compliance with Conditions D.1.3, D.1.4, D.1.5, and D.1.6 the Permittee shall keep records of the actual amount of each fuel used at the aggregate dryer/burner, since the last compliance determination period and equivalent sulfur dioxide and hydrogen chloride emissions.
- (f) To document compliance with Condition D.1.4, the Permittee shall maintain records of the amount of gelled asphalt with VOC solvent liquid binder used on a monthly basis.
- (g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.
- (h) Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.

#### D.1.16 Reporting Requirements

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- (a) A quarterly summary of the information to document compliance with Condition D.1.3 shall be submitted to the address 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).
- (b) A quarterly summary of the information to document compliance with Conditions D.1.1 through D.1.6 shall be submitted to the address 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).

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

#### D.1.17 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

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The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the asphalt plant described in this section except when otherwise specified in 40 CFR 60 Subpart I.

#### D.1.18 NSPS Subpart I Requirements [40 CFR Part 60, Subpart I] [326 IAC 12-1]

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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.

##### § 60.91 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 aggregate and mixing with asphalt cements.

§ 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.

§ 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.

## SECTION D.2

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-8-4(10)]: Insignificant Activities

- (a) One (1) hot oil heater, burning No. 2 fuel oil or natural gas, installed in 1999, rated at 2.0 million British thermal units per hour (MMBtu/hr), exhausting through Stack S-2.
- (b) One (1) cold mix feed system consisting of eight (8) compartments, each with a capacity of 25 tons, with a total aggregate holding capacity of 200 tons.
- (c) Cold-mix (stockpile mix) asphalt storage pile(s) with maximum capacity of 800 tons.
- (d) Two (2) liquid asphalt storage tanks, identified as Tanks 7 & 8, constructed in January 1984, each with a capacity of 20,000 gallons, vented to the atmosphere through V-2 & V-3, respectively.
- (e) One (1) used oil storage tank, constructed in January 1984, identified as Tank 6, capacity: 10,000 gallons, vented to the atmosphere through V-1.
- (f) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons, including
  - (1) Two (2) diesel fuel tanks, identified as Tanks 10 and 11, approved for construction in 2007, capacity: 500 gallons, each.
  - (2) One (1) fuel oil storage tank, constructed in January 1984, identified as Tank 9, with a maximum capacity: 300 gallons, exhausting at one (1) stack, identified as V-5.
- (g) Two (2) hot mix asphalt cement storage silos and slat conveyors, storage capacity: 265 tons, each.
- (h) The following VOC and HAP storage containers: vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (i) Application of oils, greases lubricants or other nonvolatile materials applied as temporary protective coatings.
- (j) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
- (k) Paved roads and parking lots with public access.

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

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

#### D.2.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate emission limitations, work practices, and control technologies), the allowable particulate emission rate from the brazing equipment, cutting torches, soldering equipment, and welding equipment shall not exceed 0.551 pound per hour emission rate established as E in the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour

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

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

**CERTIFICATION**

Source Name: Milestone Contractors, L.P.  
Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
Mailing Address: 5950 S. Belmont Avenue, Indianapolis, Indiana 46217  
FESOP No.: F 109-20545-03229

**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:

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**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: 317-233-6568**

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

Source Name: Milestone Contractors, L.P.  
Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
Mailing Address: 5950 S. Belmont Avenue, Indianapolis, Indiana 46217  
FESOP No.: F 109-20545-03229

**This form consists of 2 pages**

**Page 1 of 2**

- This is an emergency as defined in 326 IAC 2-7-1(12)
- 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
  - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6568), and follow the other requirements of 326 IAC 2-7-16

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 <sub>10</sub> , 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: Milestone Contractors, L.P.  
 Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
 Mailing Address: 5950 S. Belmont Avenue, Indianapolis, Indiana 46217  
 FESOP No.: F 109-20545-03229  
 Facility: 75 MMBtu per hour aggregate dryer/burner  
 Parameter: Waste oil and/or equivalent usage to limit SO<sub>2</sub> and HCl emissions  
 Limit: The use of waste oil with a sulfur content of 0.75% and a maximum chlorine content of 0.2% and waste oil equivalents in the 75 MMBtu per hour burner for the aggregate dryer/burner shall be limited to 1,439,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the fuel equivalency ratios in condition D.1.5(d) shall be used.

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

Month	Column 1	Column 2	Column 1 + Column 2
	Waste oil and equivalent usage This Month (gallons)	Waste oil and equivalent usage Previous 11 Months (gallons)	12 Month Total Waste oil and equivalent usage (gallons)
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**

**FESOP Quarterly Report**

Source Name: Milestone Contractors, L.P.  
 Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
 Mailing Address: 5950 S. Belmont Avenue, Indianapolis, Indiana 46217  
 FESOP No.: F 109-20545-03229  
 Facility: Cold Mix Asphalt Production  
 Parameter: VOC Usage  
 Limit: Gelled asphalt with VOC solvent liquid binder used in the production of cold mix asphalt shall not exceed 2,000 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 50 tons per twelve (12) consecutive month period.

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

Month	Column 1	Column 2	Column 1 + Column 2
	Total VOC Solvent Usage This Month (tons)	Total VOC Solvent Usage Previous 11 Months (tons)	12 Month Total VOC Solvent Usage (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**

**FESOP Quarterly Report**

Source Name: Milestone Contractors, L.P.  
Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
Mailing Address: 5950 S. Belmont Avenue, Indianapolis, Indiana 46217  
FESOP No.: F 109-20545-03229  
Facility: Dryer/Burner (EU B-2)  
Parameter: Hot mix asphalt production  
Limit: The amount of hot mix asphalt produced in the dryer/burner shall not exceed 1,320,000 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.

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**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: Milestone Contractors, L.P.  
Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
Mailing Address: 5950 S. Belmont Avenue, Indianapolis, Indiana 46217  
FESOP No.: F 109-20545-03229

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 <input type="checkbox"/> No 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: \_\_\_\_\_

A certification is not required for this report.

## Attachment A

# Fugitive Particulate Plan

---

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on November 15, 1999. The plan does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1). The plan consists of:

- (a) Applying water to stockpiles, feed and intermediate points and at loading and unloading points on an as-needed basis,
- (b) Minimizing the distance between transfer points and minimizing the fall distances and discharge rates in loading and unloading of aggregate,
- (c) Maintaining a minimum size and number of stock piles, and
- (d) Tarping of material during transportation.
- (e) The requirement from OP 99-07-90-03229 issued October 26, 1986, Condition 7, requiring that the plant road be paved is not applicable since all plant roads have been paved.

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

**Technical Support Document (TSD) for a Significant Permit Revision to a  
Federally Enforceable State Operating Permit (FESOP) Renewal**

**Source Description and Location**

Source Name:	Milestone Contractors, L.P.
Source Location:	9790 Old State Road 37 North, Martinsville, Indiana 46151
County:	Morgan
SIC Code:	2951
Operation Permit No.:	F109-20545-03229
Operation Permit Issuance Date:	September 7, 2005
Significant Permit Revision No.:	109-25533-03229
Permit Reviewer:	Sandra Carr

On November 14, 2007, the Office of Air Quality (OAQ) received an application from Milestone Contractors, L.P. requesting removal of the CO and VOC stack testing requirements from their permit for the operation of a stationary hot mix asphalt plant. The requirement had been added as part of Significant Permit Revision No. 109-23689-03229 which was issued on March 5, 2007. Milestone has agreed to accept lower asphalt production limits and waste oil usage limits to ensure that a ninety (90) ton threshold for VOC and CO emissions is not exceeded.

**Existing Emission Units**

This stationary hot mix asphalt plant consists of the following emission units and pollution control devices:

- (a) One (1) drum mixer, identified as EU B-1, constructed in 2007, and one (1) aggregate dryer/burner, identified as EU B-2, installed in 1965 and replaced in kind in 1999 due to age, with a capacity: 250 tons of asphalt per hour. The dryer is equipped with one (1) waste oil-fired burner with a maximum rating of 75.0 million British thermal units per hour (MMBtu/hr), using natural gas and No. 2 fuel oil as backup fuels, and one (1) baghouse for particulate control, exhausting through Stack S-1.

Under 40 CFR 60, Subpart I, this is considered an affected hot mix asphalt facility.

- (b) One (1) recycled asphalt pavement (RAP) processing and conveying system, including two 20 ton storage bins, with a capacity of 70 tons of RAP per hour.

**Insignificant Activities**

- (a) One (1) hot oil heater, burning No. 2 fuel oil or natural gas, installed in 1999, rated at 2.0 million British thermal units per hour (MMBtu/hr), exhausting through Stack S-2.
- (b) One (1) cold mix feed system consisting of eight (8) compartments, each with a capacity of 25 tons, with a total aggregate holding capacity of 200 tons.
- (c) Cold-mix (stockpile mix) asphalt storage pile(s) with maximum capacity of 800 tons.
- (d) Two (2) liquid asphalt storage tanks, identified as Tanks 7 & 8, constructed in January 1984, each with a capacity of 20,000 gallons, vented to the atmosphere through V-2 & V-3, respectively.

- (e) One (1) used oil storage tank, constructed in January 1984, identified as Tank 6, capacity: 10,000 gallons, vented to the atmosphere through V-1.
- (f) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons, including
  - (1) Two (2) diesel fuel tanks, identified as Tanks 10 and 11, approved for construction in 2007, capacity: 500 gallons, each.
  - (2) One (1) fuel oil storage tank, constructed in January 1984, identified as Tank 9, with a maximum capacity: 300 gallons, exhausting at one (1) stack, identified as V-5.
- (g) Two (2) hot mix asphalt cement storage silos and slat conveyors, storage capacity: 265 tons, each.
- (h) The following VOC and HAP storage containers: vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (i) Application of oils, greases lubricants or other nonvolatile materials applied as temporary protective coatings.
- (j) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
- (k) Paved roads and parking lots with public access.

**Existing Approvals**

The source was issued FESOP Renewal No. 109-20545-03229 on September 7, 2005. The source has since received the following approvals:

- (a) Administrative Amendment No. 109-22743-03229, issued on March 20, 2006; and
- (b) Significant Permit Revision No. 109-23689-03229, issued on March 5, 2007.

**County Attainment Status**

The source is located in Morgan County.

Pollutant	Designation
SO <sub>2</sub>	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O <sub>3</sub>	Attainment effective October 19, 2007, for the 8-hour ozone standard. <sup>1</sup>
PM <sub>2.5</sub>	Nonattainment
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.

*(Air Pollution Control Board; 326 IAC 1-4-56; filed Dec 26, 2007, 1:43 p.m.: 20080123-IR-326070308FRA)*

(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 October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 redesignating Delaware, Greene, Jackson, Vanderburgh, Vigo and Warrick Counties to attainment for the eight-hour ozone standard, redesignating Lake County to attainment for the sulfur dioxide standard, and revoking the one-hour ozone standard in Indiana.
- (3) 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.
- (4) 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.
- (5) Volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) are nonattainment 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 NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standard. Morgan County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements of 326 IAC 2-3, Emission Offset. See the State Rule Applicability - Entire Source section of this document.

(b) PM<sub>2.5</sub>

U.S. EPA, in the Federal Register Notice 70 FR 943 dated January 5, 2005, has designated Morgan County as nonattainment for PM<sub>2.5</sub>. On March 7, 2005 the Indiana Attorney General's Office, on behalf of IDEM, filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's guidance to regulate PM<sub>10</sub> emissions as a surrogate for PM<sub>2.5</sub> emissions pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5.

(c) Other Criteria Pollutants

Morgan 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. .

<b>Fugitive Emissions</b>
---------------------------

(a) Fugitive Emissions

Although this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, there are applicable New Source Performance Standards that were in effect on August 7, 1980. Therefore, the fugitive emissions are counted toward determination of PSD and Emission Offset applicability.

<b>Status of the Existing Source</b>
--------------------------------------

(a) The table below summarizes the limited potential to emit of the entire source, prior to the proposed revision:

<b>Limited Potential Emissions</b>									
(tons/year)									
Process Description	Criteria Pollutants					Hazardous Air Pollutants			
	PM	PM <sub>10</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	Total HAPs	Worst Case HAP	
<b>Ducted Emissions</b>									
Fuel Combustion (worst case)	71.33	66.84	124.49	87.50	1.72	26.25	15.84	14.90	(hydrogen chloride)
Dryer/Mixer	207.18	89.80	41.01	38.80	22.63	91.92	7.64	2.19	(formaldehyde)
<b>Worst Case Emissions</b>	207.18	89.80	124.49	87.50	22.63	91.92	15.84	14.90	(hydrogen chloride)
<b>Fugitive Emissions</b>									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.37	0.37	0	0	3.50	1.20	0.07	0.02	(formaldehyde)
Hot Oil and Asphalt Heaters	0	0	0	0	0	0.08	0.0017	0.00	(naphthalene)
Material Storage	1.07	0.37	0	0	0	0	0	0	
Material Processing and Handling	4.57	2.16	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	22.44	8.20	0	0	0	0	0	0	
Paved and Unpaved Roads (worst case)	50.17	12.79	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	0	0	0	(xylenes)
Gasoline Dispensing	0	0	0	0	0	0	negl.	negl.	
Volatile Organic Liquid Storage Vessels	0	0	0	0	negl.	0	negl.	negl.	
<b>Total Fugitive Emissions</b>	<b>78.61</b>	<b>23.89</b>	<b>0</b>	<b>0</b>	<b>4.24</b>	<b>1.28</b>	<b>0.07</b>	<b>0.02</b>	
<b>Totals Limited Emissions</b>									
	<b>285.79</b>	<b>113.69</b>	<b>124.49</b>	<b>87.50</b>	<b>26.86</b>	<b>93.20</b>	<b>15.92</b>	<b>14.92</b>	(hydrogen chloride)

negl = negligible

\* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". The US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

This table was based on the limits in FESOP Significant Revision No. 109-23689-03229, issued on March 5, 2007. Table has been updated to include fugitive emissions from paved & unpaved roads.

- (1) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (2) This existing source is not a major stationary source under Emission Offset (326 IAC 2-3), because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or more.

This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the unlimited potential to emit HAPs are 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, this source is an area source under Section 112 of the Clean Air Act (CAA).

<b>Description of Proposed Revision</b>
---

The Office of Air Quality (OAQ) has reviewed the application, submitted by Milestone Contractors, L.P. on November 14, 2007, relating to a request for modification of the waste oil input and asphalt output limits so that the requirement for VOC and CO exhaust stack testing on the emissions from the drum mixer, EU B-1, and the aggregate dryer/burner, EU B-2, may be removed from the permit.

IDEM has reconsidered the requirement to perform a stack test for CO and VOC emissions (Condition D.1.8) from the drum mixer, EU B-1, and aggregate dryer/burner, EU B-2. The Permittee has agreed to limit asphalt production, document the amount of asphalt processed (cold mix & hot mix), waste oil used, and sulfur & chlorine content of the waste oil on a monthly basis.

<b>Enforcement Issues</b>
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There are no pending enforcement actions related to this revision.

**Emission Calculations**

See Appendix A of this TSD for detailed emission calculations.

**Permit Level Determination – FESOP Revision**

The table below summarizes the potential to emit of the entire source (*reflecting adjustment of existing limits*), with updated emissions shown as **bold** values and previous emissions shown as ~~strike through~~ values.

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)	<del>71.33</del> <b>46.05</b>	<del>56.84</del> <b>36.69</b>	<del>124.49</del> <b>82.54</b>	<del>87.50</del> <b>31.25</b>	1.72	26.25	<del>15.84</del> <b>10.72</b>	<del>14.92</del> <b>9.50</b> (hydrogen chloride)
Dryer/Mixer	<del>207.18</del> <b>129.87</b>	<del>89.80</del> <b>60.59</b>	<del>41.01</del> <b>38.28</b>	<del>38.89</del> <b>36.30</b>	<del>22.63</del> <b>21.12</b>	<del>91.92</del> <b>85.80</b>	<del>7.54</del> <b>7.04</b>	<del>2.19</del> <b>2.05</b> (formaldehyde)
<b>Worst Case Emissions</b>	<del>207.18</del> <b>129.87</b>	<del>89.80</del> <b>60.59</b>	<del>124.49</del> <b>82.54</b>	<del>87.50</del> <b>36.30</b>	<del>22.63</del> <b>21.12</b>	<del>91.92</del> <b>85.80</b>	<del>15.84</del> <b>10.72</b>	<del>-----</del> <b>9.50</b> (hydrogen chloride)
<b>Fugitive Emissions</b>								
Asphalt Load-Out and On-Site Yard	<del>0.37</del> <b>0.72</b>	<del>0.37</del> <b>0.72</b>	0	0	<del>3.50</del> <b>11.13</b>	<del>1.20</del> <b>1.87</b>	<del>0.07</del> <b>0.19</b>	<del>0.02</del> <b>0.06</b> (formaldehyde)
Hot Oil and Asphalt Heaters	<del>0</del> <b>4.00</b>	<del>0</del> <b>3.19</b>	<del>0</del> <b>6.90</b>	<del>0</del> <b>1.25</b>	<del>0</del> <b>0.06</b>	<del>0.08</del> <b>0.81</b>	<del>0.0017</del> <b>0.90</b>	<del>0.00</del> <b>0.01</b> (naphthalene)
Material Storage Piles	<del>1.07</del> <b>1.03</b>	<del>0.37</del> <b>0.36</b>	0	0	0	0	0	0
Material Processing and Handling	<del>4.57</del> <b>4.26</b>	<del>2.16</del> <b>2.02</b>	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	<del>22.44</del> <b>2.02</b>	<del>8.20</del> <b>1.03</b>	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	<del>50.17</del> <b>46.86</b>	<del>12.79</del> <b>11.94</b>	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	<del>0</del> <b>50.0</b>	0	<del>0</del> <b>13.04</b>	<del>0</del> <b>4.50</b> (xylenes)
Gasoline Dispensing	0	0	0	0	<del>0.74</del> <b>0</b>	0	<del>negl.</del> <b>0</b>	<del>negl.</del> <b>.0</b>
Volatile Organic Liquid Storage Vessels	0	0	0	0	<del>negl.</del> <b>0.11</b>	0	<del>negl.</del> <b>negl.</b>	<del>negl.</del> <b>negl.</b>
<b>Total Fugitive Emissions</b>	<del>78.61</del> <b>58.90</b>	<del>23.89</del> <b>19.26</b>	<del>0</del> <b>6.90</b>	<del>0</del> <b>1.25</b>	<del>4.24</del> <b>61.31</b>	<del>1.28</del> <b>2.69</b>	<del>0.07</del> <b>14.13</b>	
<b>Totals Limited/Controlled Emissions</b>	<del>285.79</del> <b>225</b>	<del>113.69</del> <b>90</b>	<del>124.49</del> <b>90</b>	<del>87.50</del> <b>37.55</b>	<del>26.86</del> <b>90</b>	<del>93.20</del> <b>90</b>	<del>15.92</del> <b>24.85</b>	<del>14.92</del> <b>9.50</b> (hydrogen chloride)

- (a) This table was based on the limits in FESOP Significant Revision No. 109-23689-03229, issued on March 5, 2007. Table has been updated to include fugitive emissions from paved & unpaved roads and Cold Mix Asphalt production emissions.
- (b) Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM<sub>10</sub>), not particulate matter (PM), is considered as a "regulated air pollutant".
- (c) This FESOP is being revised through a FESOP Significant Permit Revision pursuant to 326 IAC 2-8-11.1(g)(2) because it involves adjustment to the existing source-wide emissions limitations to maintain the FESOP status of the source (see PTE of the Entire Source After The Issuance of the FESOP Revision Section).

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

- (a) The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this FESOP permit revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted).

Process Description	Limited 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)	46.05	36.69	82.54	31.25	1.72	26.25	10.72	9.50	(hydrogen chloride)
Dryer/Mixer	129.87	60.59	38.28	36.30	21.12	85.80	7.04	2.05	(formaldehyde)
<b>Worst Case Emissions</b>	<b>129.87</b>	<b>60.59</b>	<b>82.54</b>	<b>36.30</b>	<b>21.12</b>	<b>85.80</b>	<b>10.72</b>	<b>9.50</b>	(hydrogen chloride)
<b>Fugitive Emissions</b>									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.72	0.72	0.00	0.00	11.13	1.87	0.19	0.06	(formaldehyde)
Hot Oil and Asphalt Heaters	4.00	3.19	6.90	1.25	0.06	0.81	0.90	0.00	(naphthalene)
Material Storage	1.03	0.36	0.00	0.00	0.00	0.00	0.00	0.00	
Material Processing and Handling	4.26	2.02	0.00	0.00	0.00	0.00	0.00	0.00	
Material Crushing, Screening, and Conveying	2.02	1.03	0.00	0.00	0.00	0.00	0.00	0.00	
Paved and Unpaved Roads (worst case)	46.86	11.94	0.00	0.00	0.00	0.00	0.00	0.00	
Cold Mix Asphalt Production	0.00	0.00	0.00	0.00	50.00	0.00	13.04	4.50	(xylenes)
Gasoline Dispensing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Volatile Organic Liquid Storage Vessels	0.00	0.00	0.00	0.00	0.11	0.00	negl.	negl.	
<b>Total Fugitive Emissions</b>	<b>58.90</b>	<b>19.26</b>	<b>6.90</b>	<b>1.25</b>	<b>61.31</b>	<b>2.69</b>	<b>14.13</b>		
<b>Totals Limited Emissions</b>	<b>225</b>	<b>90</b>	<b>90</b>	<b>37.55</b>	<b>90</b>	<b>90</b>	<b>24.85</b>	<b>9.50</b>	(hydrogen chloride)
<b>Title V Major Source Thresholds</b>	<b>NA</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>25</b>	<b>10</b>	
<b>PSD Major Source Thresholds</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>NA</b>	<b>NA</b>	
<b>Emission Offset Major Source Thresholds</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>NA</b>	<b>NA</b>	

negl = negligible

\* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". The US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

(a) **FESOP Status**

This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP).

In previous permits, the additional VOC emissions from the production of cold mix asphalt were mistakenly omitted. Those emissions have been included in the table in the section "PTE of the Entire Source After Issuance of the FESOP Revision" of this document.

The source reported that waste residual oil will be the primary fuel used in the dryer/burner. The combustion of waste oil produces the regulated HAP, hydrochloric acid (HCl). In accordance with previous permit No. 109-23689-03229, the source will continue to limit HCl emissions to 9.5 ton per twelve (12) consecutive month period. Also in accordance with the previous permit, the source will continue to 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 obviate the requirement to perform emission testing for VOC and CO, the applicant has agreed to additional limits and monitoring/record keeping requirements. The additional limits are on cold mix asphalt production, gelled asphalt usage, and the chlorine content of waste oil. The limits for particulates, waste oil usage, and hot mix asphalt production have been modified. The single additional monitoring requirement is for daily monitoring of the inlet temperature of the baghouse, BH-1. The additional record keeping requirements are for inlet temperature on baghouse, BH-1, the chlorine content of waste oil, the amount of gelled asphalt used, and the amount of cold mix asphalt produced.

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

(1) HCl & SO<sub>2</sub> Limits

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 1,439,000 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 90 tons per year and source-wide HCl emissions are limited to 9.5 tons per twelve (12) consecutive month period. (see the "Potential to Emit After Issuance" table in this document) The changes in this limit are as follows:

- (A) the waste oil usage limit was changed from 2,258,288 gallons to 1,439,000 gallons per twelve (12) consecutive month period and
- (B) the source-wide maximum SO<sub>2</sub> emissions are limited to 90 tons per twelve (12) consecutive month period.

This fuel usage limitation will limit source-wide HCl emissions to less than 9.5 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.

(2) CO Limit

The CO emissions from the drum mixer and aggregate dryer/burner shall be less than 0.13 pound per ton of asphalt processed and the amount of asphalt processed shall not exceed 1,320,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is equivalent to CO emissions of 85.80 tons per year from the aggregate dryer/burner and 90 tons per year from the entire source (see the "Potential to Emit After Issuance" table in this document). The changes in this limit are as follows:

- (A) the asphalt production limit was changed from 1,414,178.73 tons to 1,320,000 tons per twelve (12) consecutive month period and
- (B) the source-wide maximum CO emissions are limited to 90 tons per twelve (12) consecutive month period.

(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 50 tons per twelve (12) consecutive month period so that source-wide VOC emissions are limited to 90 tons per year. This is a new limit since cold mix asphalt production was not addressed in previous permits for this source.

- (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 1,320,000 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. This changes the asphalt production limit from 1,414,178.73 to 1,320,000 tons per twelve (12) consecutive month period.
- (5) **PM<sub>10</sub> Limit**  
PM<sub>10</sub> emissions from the drum mixer and aggregate dryer/burner shall be limited to 0.092 pound PM<sub>10</sub> per ton of asphalt mix which is equivalent to 13.83 pounds of PM<sub>10</sub> emitted per hour, based on a maximum throughput of 250 tons of asphalt mix per hour. Based on 8,760 hours of operation per 12 consecutive month period, this limits PM<sub>10</sub> emissions from the aggregate mixing and drying operation to 60.59 tons per year for a source-wide total potential to emit of 90 tons per year. The source will be able to comply with the PM<sub>10</sub> emission limit by utilizing a baghouse, BH-1, for controlling PM<sub>10</sub> emissions to less than 13.83 pounds per hour from the aggregate dryer/burner and drum mixer. (see the "Potential to Emit After Issuance" table in this document). The limit for PM<sub>10</sub> emissions from the aggregate dryer/burner and drum mixer was changed from 0.127 to 0.092 pounds per ton of asphalt mix.

For the purposes of determining compliance with the limits in 1 - 5, the following shall apply:

- (a) every 1,000 gallons of No. 2 fuel oil with a maximum sulfur content of 0.5% burned shall be equivalent to 950 gallons of waste oil based on SO<sub>2</sub> emissions, such that the total gallons of waste oil and waste oil equivalent input does not exceed the limit specified;
- (b) every MMCF of natural gas burned shall be equivalent to 5.4 gallons of waste oil based on SO<sub>2</sub> emissions, such that the total gallons of waste oil and waste oil equivalent input does not exceed the limit specified.

Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM<sub>10</sub>), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM<sub>10</sub> emissions as surrogate for PM<sub>2.5</sub> emissions.

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 90 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 modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (a) This source is in an attainment county for PM and the unrestricted potential PM emissions are greater than 250 tons per year. The PM emissions from the drum mixer and aggregate dryer/burner shall be less than 0.197 pound per ton of asphalt processed and the amount of asphalt processed shall not exceed 1,320,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is equivalent to PM emissions of

129.87 tons per year from the aggregate dryer and drum mixer, and 188.77 tons per year from the entire source (see the "Potential to Emit After Issuance" table in this document). Thus, the requirements of 326 IAC 2-2, PSD, are not applicable.

- (b) This source is in an attainment county for SO<sub>2</sub>, CO, VOC, and NO<sub>x</sub> and the unrestricted potential emissions of SO<sub>2</sub>, CO, VOC, and NO<sub>x</sub> are less than 250 tons per year. Therefore, the requirements of 326 IAC 2-2, PSD, are not applicable.

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) The PM emissions shall be less than 0.197 pound per ton of asphalt processed.
- (2) The amount of asphalt processed shall not exceed 1,320,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 225 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

In this significant permit revision, the limit for PM emissions from the aggregate dryer/burner and drum mixer was changed from 0.293 to 0.197 pounds per ton of asphalt mix and the asphalt production limit was changed from 1,414,178.73 tons to 1,320,000 tons per twelve (12) consecutive month period.

#### **Federal Rule Applicability Determination**

- (a) There are no new Federal Rules included in this permit revision for this modification. The source shall continue to comply with the applicable federal requirements and permit conditions contained in FESOP Renewal No. F109-20545-03229 and in Significant Permit Revision No. F109-23689-03229.

#### New Source Performance Standards (NSPS)

- (b) There are no New Source Performance Standards (NSPS)(40 CFR Part 60) included for this proposed revision.

#### National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

#### Compliance Assurance Monitoring (CAM)

- (g) Pursuant to 40 CFR 64.2, 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.

#### **State Rule Applicability Determination**

The following state rules are applicable to the proposed revision:

- (a) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))  
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.

- (b) 326 IAC 2-3 (Emission Offset) and 326 IAC 2-1.1-5 (Nonattainment New Source Review)  
This modification to an existing Emission Offset minor stationary source will not change the Emission Offset minor status, because the potential to emit of all nonattainment regulated pollutants from the entire source will continue to be less than the Emission Offset major source threshold levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.

Assuming that PM<sub>10</sub> emissions represent PM<sub>2.5</sub> emissions, compliance with the PM<sub>10</sub> limit shall also limit the source-wide potential to emit of PM<sub>2.5</sub> to less than 90 tons per 12 consecutive month period and shall render 326 IAC 2-1.1-5 (Nonattainment New Source Review) not applicable. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.

- (c) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))  
The unlimited potential to emit of HAPs from the aggregate dryer/burner using waste oil as fuel 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 continue to limit the potential to emit of HAPs from the aggregate dryer/burner using waste oil as fuel 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 proposed revision is not subject to the requirements of 326 IAC 2-4.1. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.

- (d) 326 IAC 2-6 (Emission Reporting)  
Pursuant to 326 IAC 2-6-1, this source is still 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.

- (e) 326 IAC 2-8-4 (FESOP)  
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP). See PTE of the Entire Source After Issuance of the FESOP Revision Section above. Pursuant to this revision, the PM<sub>10</sub>, SO<sub>2</sub>, VOC, and CO emissions shall be limited as follows:

- (a) Pursuant to 326 IAC 2-8-4, the SO<sub>2</sub> emissions from the aggregate dryer/burner shall be limited as follows:
- (1) The use of waste oil for the 75 MMBtu per hour aggregate dryer/burner shall be limited to less than 1,439,000 gallons or equivalent per twelve (12) consecutive month period, with compliance determined at the end of each month.

For the purpose of determining compliance with this limit:

- (A) Every 183.75 million cubic feet of natural gas shall be equivalent to one thousand (1000) gallons of waste oil. However, the natural gas usage shall in no case exceed 625 million cubic feet (MMCF) per twelve (12) consecutive month period.
- (B) Every 1.55 gallons of No. 2 fuel oil shall be equivalent to one (1) gallon of waste oil. However, the No. 2 fuel oil usage shall in no case exceed 2,325,000 gallons per twelve (12) consecutive month period.
- (2) The sulfur content of the No. 2 fuel oil shall not exceed 0.5% by weight.
- (3) The sulfur content of the waste oil shall not exceed 0.75% by weight.

Compliance with these limits, combined with the SO<sub>2</sub> emissions from other units at the source, will limit source-wide SO<sub>2</sub> emissions to less than 90 tons per twelve (12) consecutive month period. Compliance with these limits will render 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-2 (PSD) not applicable.

See Appendix A for the detailed calculations.

- (b) Pursuant to 326 IAC 2-8-4, the emissions of PM<sub>10</sub>, CO, and VOC from the aggregate dryer/burner shall be limited as follows:
- (1) The asphalt production rate shall be limited to less than 1,320,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
  - (2) PM<sub>10</sub> emissions from the aggregate dryer/burner shall be limited to less than 0.092 pounds of PM<sub>10</sub> per ton of asphalt produced.
  - (3) CO emissions from the aggregate dryer/burner shall be limited to less than 0.130 pounds of CO per ton of asphalt produced.
  - (4) VOC emissions from the aggregate dryer/burner shall be limited to less than 0.032 pounds of VOC per ton of asphalt produced.

Compliance with these limits, combined with the emissions from all other emission units at this source, will render 326 IAC 2-7 (Part 70 Permit Program), and 326 IAC 2-2 (PSD) not applicable.

See Appendix A for the detailed calculations.

- (c) Pursuant to 326 IAC 2-8-4(1), the following additional limits shall apply to the aggregate dryer/burner:
- (1) The chlorine content of the waste oil used in the burner for the aggregate dryer/burner shall not exceed two tenths of a percent (0.20%) by weight.
  - (2) The usage of waste oil in the burner for the aggregate dryer/burner shall be limited to less than 1,439,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
  - (3) The HCl emissions from the burner for the aggregate dryer/burner shall be limited to less than 13.2 pounds of HCl per 1,000 gallons of waste oil burned.

These limits are required in order to limit the source-wide emissions of HCl to less than 9.5 tons per year. Compliance with these limits will also limit source-wide emissions of combined HAPs to less than 25 tons per year. Therefore, compliance with these limits renders 326 IAC 2-7 (Part 70) not applicable.

See Appendix A for the detailed calculations.

- (d) Pursuant to 326 IAC 2-8, the Permittee shall continue to control PM and PM<sub>10</sub> emissions from paved and unpaved roads according to the fugitive dust plan submitted on November 15, 1999.
- (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 from this source shall continue to 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 6-2 (Particulate Emissions from Indirect Heating Units)  
The aggregate dryer/burner, identified as EU B-2, is still not subject to 326 IAC 6-2 as it is not a source of indirect heating.
- (g) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)  
The potential to emit particulate from this source will continue to be limited by 326 IAC 12, 40 CFR Part 60.90, Subpart I. Therefore, pursuant to 326 IAC 6-3-1(c)(5), the limitations of 326 IAC 6-3 are not applicable.
- The PM limit calculated using 326 IAC 12, 40 CFR Part 60.90, Subpart I, 10.17 tons/year, is more stringent than the limit specified by 326 IAC 6-3-2, 60.96 tons/year. Therefore, pursuant to 326 IAC 6-3-1(c)(5), the limitations of 326 IAC 12, 40 CFR Part 60.90, Subpart I are applicable.
- (h) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)  
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall continue to prevent fugitive dust from escaping 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.
- (i) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)  
The proposed revision is not subject to the requirements of 326 IAC 6-5, because the reduction of asphalt production and waste oil usage does not have 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 November 15, 1999, which is included as Attachment A to the permit.
- (j) 326 IAC 7.1 (Sulfur Dioxide Rules)
- (a) The potential to emit SO<sub>2</sub> from the drum mixer, identified as EU B-1, and the waste oil-fired aggregate dryer/burner, identified as EU B-2, is twenty-five (25) tons per year or more. Therefore, the requirements of 326 IAC 7-1.1 are already applicable to the aggregate dryer/burner. The sulfur dioxide emissions shall continue to be limited to one and six-tenths (1.6) pounds per million British thermal units (MMBtu/hr). This source has agreed to continue to limit the sulfur content of the waste oil used for asphalt production to no more than seventy-five hundredths of a percent (0.75%) by weight. Compliance with this limitation shall be accomplished by limiting the weight percent sulfur in the waste oil to no more than seventy-five hundredths of a percent (0.75%).
- (b) The potential to emit SO<sub>2</sub> from the hot oil heater is still less than ten (10) pounds per hour and twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 7.1 are applicable.
- (k) 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements)  
Pursuant to this rule, the source shall submit reports of calendar month average sulfur content, fuel consumption, and sulfur dioxide emission rate (pounds SO<sub>2</sub> per kgal), to the OAQ upon request.
- (l) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)(BACT)  
The unlimited potential to emit of VOC from the drum mixer, EU B-1, and aggregate dryer/burner, EU B-2, is greater than twenty-five (25) tons per year. However, the source shall continue to limit the potential to emit of VOC from the drum mixer, EU B-1, and aggregate dryer/burner, EU B-2, to less than twenty-five (25) tons per year. Therefore, the proposed revision is not subject to the requirements of 326 IAC 8-1-6.

In order to render the requirements of 326 IAC 8-1-6 not applicable, the drum mixer, EU B-1 and aggregate dryer/burner, EU B-2, shall be limited as follows:

- (1) The VOC emissions shall be less than 0.032 pound per ton of asphalt processed.
- (2) The amount of asphalt processed shall not exceed 1,320,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits shall limit the potential to emit VOC from the drum mixer, EU B-1 and aggregate dryer/burner, EU B-2, to less than twenty-five (25) tons per 12 consecutive month period and shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

- (m) 326 IAC 8-4-3 (Petroleum liquid storage facilities)  
The tanks at this source each have a capacity less than one hundred fifty thousand (150,000) liters (thirty-nine thousand (39,000) gallons). Therefore, the requirements of 326 IAC 8-4-3 are still not applicable.
- (n) 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.

- (o) 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)  
The two (2) liquid asphalt storage tanks and the three (3) fuel oil storage tanks are still not subject to the requirements of this rule because the source is not located in Clark, Floyd, Lake, or Porter Counties.
- (p) There are no other 326 IAC 8 Rules that are applicable to the drum mixer, EU B-1, and aggregate dryer/burner, EU B-2.
- (q) 326 IAC 10-1 (Nitrogen Oxides Control in Clark and Floyd Counties)  
This source is not in Clark or Floyd County. Therefore, the requirements of 326 IAC 10-1 are still not applicable.
- (r) 326 IAC 12 (New Source Performance Standards)  
See Federal Rule Applicability Section of this TSD.
- (s) 326 IAC 20 (Hazardous Air Pollutants)  
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 all 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 proposed revision are as follows:

Emission Unit/Control	Operating Parameters	Frequency
Baghouse	Pressure Drop / Inlet Temperature	Once per day
Stack S-1	Opacity	Once per day

The drum mixer, aggregate dryer/burner, baghouse stack exhaust, the conveying, screening, and material transfer points have applicable compliance monitoring conditions as specified below. Daily monitoring of inlet gas temperature and visible emissions from conveyors & transfer points have been added per this revision.

Control	Parameter	Frequency	Range	Excursions and Exceedances
Baghouse	Pressure Drop	Daily	1 – 8 inches of water	Response Steps
Baghouse	Inlet Temperature	Daily	200° - 400° F	Response Steps
Visible emissions from Conveyors, material transfer points, drum mixer & aggregate dryer/burner stack (S1) exhaust	Opacity	Daily	<30%	Response Steps

- (1) Within sixty (60) days after achieving maximum capacity, but not later than one hundred and eighty (180) days after startup, in order to demonstrate compliance with 326 IAC 2-2, 326 IAC 6.5, and 326 IAC 2-8, the Permittee shall perform PM and PM<sub>10</sub> testing for the baghouse, identified as BH-1, exhausting from the drum mixer, EU B-1, and aggregate dryer/burner, EU B-2, to Stack 1, utilizing methods as approved by the Commissioner. PM<sub>10</sub> includes filterable and condensable particulate matter.

This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM<sub>10</sub> includes filterable and condensable PM<sub>10</sub>. Testing shall be conducted according to the provisions of 326 IAC 3-6 (Source Sampling Procedures).

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing	Limit or Requirement
drum mixer & aggregate dryer/burner	Baghouse	180 days	PM/ PM <sub>10</sub>	Once every 5 years	0.0.197 lb PM/ton of asphalt; 0.092 lb PM <sub>10</sub> /ton of asphalt

In order to comply with the PM and PM<sub>10</sub> limitations in the permit, the baghouse, identified as

BH-1, shall be in operation and control emissions from the drum mixer and aggregate dryer/burner at all times when the drum mixer and aggregate dryer/burner are in operation.

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.

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

(A) 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).

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

(ii) 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 aggregate dryer and batch 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.

(3) 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.

(4) The Permittee shall demonstrate compliance with the CO emission limitations by keeping records of the asphalt production rate, with compliance determined at the end of each month.

(5) 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.

- (6) Opacity testing utilizing 40 CFR Part 60 Appendix A, Method 9, to demonstrate compliance with the opacity limitation of 40 CFR 60, Subpart I.
- (7) The drum mixer and aggregate dryer/burner are controlled by a baghouse, BH-1. 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 aggregate dryer/mixer are limited to 0.197 and 0.092 pounds per ton of asphalt, respectively. PM and PM<sub>10</sub> testing is required in order to demonstrate compliance with these limits.

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.

- (8) The drum mixer and aggregate dryer/burner, baghouse stack exhaust, identified as Stack 1, the conveying, screening, and material transfer points have applicable compliance monitoring conditions as specified below:

Control	Parameter	Frequency	Range	Excursions and Exceedances
Conveyors, material transfer points, drum mixer & aggregate dryer/burner stack (S1) exhaust	Visible Emissions	Daily	Normal-Abnormal	Response Steps
Baghouse, BH-1, for the drum mixer & aggregate dryer/burner	Water Pressure Drop / Inlet Temperature	Daily	1.0 - 8.0 inches of water/ 200° - 400° F	Response Steps

- (A) Visible emission notations of the drum mixer and aggregate dryer/burner, baghouse stack exhaust, and the conveying, 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, BH-1, 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 1.0 and 8.0 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 Permittee shall record the inlet temperature to the baghouse, BH-1, used in conjunction with the aggregate dryer/mixer, at least once per day when the aggregate dryer/mixer is in operation. When for any one reading, the inlet temperature to the baghouse is outside the normal range of 200 and 400 degrees Fahrenheit 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. This is required to prevent overheating of the bags and to prevent low temperatures from mudding up the bags. A temperature 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.
- (H) 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.
- (I) 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).
- (J) 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).
- (K) 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 baghouse, BH-1, 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.

#### Proposed Changes

- (a) The following changes listed below are due to the proposed revision. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

- (1) The expiration date on the cover page has been extended by five (5) years as follows:

Issuance Date: September 7, 2005

Expiration Date: ~~September 7, 2010~~ **September 7, 2015**

- (2) Condition B.2 has been revised to reflect the ten (10) year permit renewal term.

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

- (a) This permit, 109-20545-03229, is issued for a fixed term of ~~five (5)~~ **ten (10)** 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.

- (3) Section A.1 is revised as follows because the attainment status for 8 hour ozone for Morgan county has changed:

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

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...

Nonattainment for ~~8-hour ozone~~ and PM<sub>2.5</sub>

- (4) Section A.2 is revised to reorganize emission units according to contribution to source-wide emissions, with other units moved to section A.3, Insignificant Activities, as follows:

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

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~~(a) One (1) drum mixer, identified as EU B-1, approved for construction in 2007, and one (1) No. 4 reused oil-fired dryer/burner, identified as EU B-2, installed in 1965 and replaced in kind in 1999 due to age, exhausted through a baghouse and Stack S-1, rated at 75.0 million British thermal units per hour, capacity: 250 tons of asphalt per hour.~~

- (a) One (1) drum mixer, identified as EU B-1, constructed in 2007, and one (1) aggregate dryer/burner, identified as EU B-2, installed in 1965 and replaced in kind in 1999 due to age, with a capacity: 250 tons of asphalt per hour. The dryer is equipped with one (1) waste oil-fired burner with a maximum rating of 75.0 million British thermal units per hour (MMBtu/hr), using natural gas and No. 2 fuel oil as backup fuels, and one (1) baghouse for particulate control, exhausting through Stack S-1.**

**Under 40 CFR 60, Subpart I, this is considered an affected hot mix asphalt facility.**

~~(b) One (1) No. 2 distillate oil-fired hot oil heater, installed in 1999, rated at 2.0 million British thermal units per hour.~~

~~(c) Storage and conveying operations, including one (1) recycled asphalt pavement (RAP) bin and conveyor system with a capacity of 70 tons of RAP per hour, capacity: 250 tons of asphalt per hour, total.~~

- (b) One (1) recycled asphalt pavement (RAP) processing and conveying system, including two 20 ton storage bins, with a capacity of 70 tons of RAP per hour.**

~~(d) Two (2) silos and slat conveyors, storage capacity: 265 tons, each.~~

~~(e) Six (6) cold feed bins.~~

~~(f) One (1) storage tank, identified as Tank 8, constructed in January 1984, capacity: 20,000 gallons of liquid asphalt.~~

~~(g) One (1) used oil storage tank, constructed in January 1984, identified as Tank 6, capacity: 10,000 gallons.~~

~~(h) One (1) fuel oil storage tank, constructed in January 1984, identified as Tank 7, capacity: 6,000 gallons.~~

~~(i) One (1) fuel oil storage tank, constructed in January 1984, identified as Tank 9, capacity: 300 gallons.~~

(5) Section A.3 is revised, in conjunction with A.2, as follows:

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

**The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):**

- (b a) One (1) hot oil heater, burning No. 2 fuel oil or natural gas, installed in 1999, rated at 2.0 million British thermal units per hour (MMBtu/hr), exhausting through Stack S-2.**
- (e b) One (1) cold mix feed system consisting of eight (8) compartments, each with a capacity of 25 tons, with a total aggregate holding capacity of 200 tons.**
- (c) Cold-mix (stockpile mix) asphalt storage pile(s) with maximum capacity of 800 tons.**
- (~~f~~ d) Two (2) liquid asphalt storage tanks, identified as Tanks 7 & 8, constructed in January 1984, each with a capacity of 20,000 gallons, vented to the atmosphere through V-2 & V-3, respectively.**
- (e) One (1) used oil storage tank, constructed in January 1984, identified as Tank 6, capacity: 10,000 gallons, vented to the atmosphere through V-1..**
- (e f) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons, including two (2) diesel fuel tanks, identified as Tanks 10 and 11, approved for construction in 2007, capacity: 500 gallons, each.  
Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons, including**
  - (1) Two (2) diesel fuel tanks, identified as Tanks 10 and 11, approved for construction in 2007, capacity: 500 gallons, each.**
  - (2) One (1) fuel oil storage tank, constructed in January 1984, identified as Tank 9, with a maximum capacity: 300 gallons, exhausting at one (1) stack, identified as V-5.**
- (~~d~~ g) Two (2) hot mix asphalt cement storage silos and slat conveyors, storage capacity: 265 tons, each.**
- (h a) The following VOC and HAP storage containers: vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.**
- (i b) Application of oils, greases lubricants or other nonvolatile materials applied as temporary protective coatings.**
- (j e) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]**
- (k d) Paved roads and parking lots with public access.**
- (6) Section D.1 is revised to mirror the changes made to sections A.2 and A.3, as follows:

Facility Description [326 IAC 2-8-4(10)]: Asphalt Production

~~(a) One (1) drum mixer, identified as EU B-1, approved for construction in 2007, and one (1) No. 4 reused oil-fired dryer/burner, identified as EU B-2, installed in 1965 and replaced in kind in 1999 due to age, exhausted through a baghouse and Stack S-1, rated at 75.0 million British thermal units per hour, capacity: 250 tons of asphalt per hour.~~

**(a) One (1) drum mixer, identified as EU B-1, constructed in 2007, and one (1) aggregate dryer/burner, identified as EU B-2, installed in 1965 and replaced in kind in 1999 due to age, with a capacity: 250 tons of asphalt per hour. The dryer is equipped with one (1) waste oil-fired burner with a maximum rating of 75.0 million British thermal units per hour (MMBtu/hr), using natural gas and No. 2 fuel oil as backup fuels, and one (1) baghouse for particulate control, exhausting through Stack S-1.**

**Under 40 CFR 60, Subpart I, this is considered an affected hot mix asphalt facility.**

~~(b) One (1) No. 2 distillate oil-fired hot oil heater, installed in 1999, rated at 2.0 million British thermal units per hour.~~

~~(c) Storage and conveying operations, including one (1) recycled asphalt pavement (RAP) bin and conveyor system with a capacity of 70 tons of RAP per hour, capacity: 250 tons of asphalt per hour, total.~~

**(b) One (1) recycled asphalt pavement (RAP) processing and conveying system, including two 20 ton storage bins, with a capacity of 70 tons of RAP per hour.**

~~(d) Two (2) silos and slat conveyors, storage capacity: 265 tons, each.~~

~~(e) Six (6) cold feed bins.~~

~~(f) One (1) storage tank, identified as Tank 8, constructed in January 1984, capacity: 20,000 gallons of liquid asphalt.~~

~~(g) One (1) used oil storage tank, constructed in January 1984, identified as Tank 6, capacity: 10,000 gallons.~~

~~(h) One (1) fuel oil storage tank, constructed in January 1984, identified as Tank 7, capacity: 6,000 gallons.~~

~~(i) One (1) fuel oil storage tank, constructed in January 1984, identified as Tank 9, capacity: 300 gallons.~~

(7) Section D.1.1 is revised due to the decreased asphalt production limit, as follows:

D.1.1 Particulate Matter (PM and PM<sub>10</sub>) [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-3]

(a) The PM emissions from the ~~aggregate dryer and drum mixer~~ **drum mixer and aggregate dryer/burner** shall be less than ~~0.197~~ **0.293** pound per ton of asphalt processed and the amount of asphalt processed shall not exceed ~~1,414,178.73~~ **1,320,000** 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 ~~aggregate dryer and mixer~~ **drum mixer and aggregate dryer/burner** shall be less than ~~0.092~~ **0.127** pound per ton of asphalt processed and the amount of asphalt processed shall not exceed ~~1,414,178.73~~ **1,320,000** tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

**Compliance with these limitations, combined with the limits and emissions from other emission units at this source, will satisfy 326 IAC 2-8-4 (FESOP), and will render 326 IAC 2-7, Part 70, and 326 IAC 2-2, PSD, not applicable.**

(8) Section D.1.2 is revised to reflect the revised asphalt production limit, as follows:

D.1.2 Carbon Monoxide (CO) [326 IAC 2-8-4] [326 IAC 2-2]

The CO emissions from the drum mixer and aggregate dryer/burner shall be less than 0.13 pound per ton of asphalt processed and the amount of asphalt processed shall not exceed **1,320,000** ~~1,414,178.73~~ tons per-twelve (12) consecutive month period, with compliance determined at the end of each month. ~~This limit shall render the requirements of 326 IAC 2-8, Part 70, not applicable.~~

**Compliance with these limitations, combined with the limits and emissions from other emission units at this source, will satisfy 326 IAC 2-8-4 (FESOP), and will render 326 IAC 2-7, Part 70, and 326 IAC 2-2, PSD, not applicable.**

(9) Section D.1.3 is revised as follows:

D.1.3 Sulfur Dioxide (SO<sub>2</sub>) [326 IAC 2-8-4]

~~Pursuant to 326 IAC 2-8-4, the input of No. 4 reused fuel oil to the dryer/burner, identified as EU B-2 shall be less than 2,258,288 gallons per twelve (12) consecutive month period,~~  
**Pursuant to 326 IAC 2-8-4, the input of waste oil to the aggregate dryer/burner shall be less than 1,439,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.**

(10) Section D.1.4 is revised to reflect the revised asphalt production limit and to add gelled asphalt usage limits, as follows:

D.1.4 Volatile Organic Compounds [326 IAC 8-5-2] [326 IAC 8-1-6] [326 IAC 2-8-4] [326 IAC 2-2]

...  
(b) ~~The VOC emissions from the aggregate dryer and mixer~~ **drum mixer and aggregate dryer/burner** shall be less than 0.032 pound per ton of asphalt processed and the amount of asphalt processed shall not exceed ~~1,414,178.73~~ **1,320,000** tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

**Compliance with this shall limit the potential VOC emissions to less than twenty-five (25) tons per year from the drum mixer and aggregate dryer/burner and shall render the requirements of 326 IAC 8-1-6, New facilities; General reduction requirements, not applicable.**

(c) **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.**

**Compliance with this shall limit the VOC emitted from solvent use in cold mix production to fifty (50) tons per twelve (12) consecutive month period so that source-wide VOC emissions are limited to less than 90 tons per year.**

(11) Section D.1.5 is revised to include #2 fuel oil and waste oil, as follows:

D.1.5 Sulfur Dioxide [326 IAC 7-1] [326 IAC 7-2-1]

~~(a) Pursuant to 326 IAC 7-1.1-2, the SO<sub>2</sub> emissions from the aggregate dryer/burner, identified as~~

- ~~EU B-2, shall not exceed one and six-tenths (1.6) pounds per million British thermal units heat input.~~
- (a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 75 million Btu per hour burner for the aggregate dryer/mixer shall be limited to one-half (0.5) pounds per million Btu heat input or a sulfur content of less than or equal to one-half percent (0.5%) by weight when using distillate oil (No. 2 fuel oil).
- (b) ~~The sulfur content of the waste oil shall not exceed one and five-tenths percent (1.5%) by weight. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.~~  
Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 75 million Btu per hour burner for the aggregate dryer/mixer shall be limited to one and six-tenths (1.6) pounds per million Btu heat input or a sulfur content of less than or equal to one and five-tenths percent (1.5 %) by weight when using waste oil. The source has accepted a sulfur content limit of seventy-five hundredths percent (0.75%) for residual oil (waste oil).
- (c) ~~Pursuant to 326 IAC 7-2-1, compliance with the limit in paragraph (a) shall be demonstrated on a calendar month average. 326 IAC 7-1.1 and 326 IAC 7-2-1 are not federally enforceable.~~  
Pursuant to 326 IAC 7-2-1, compliance with the sulfur content limits shall be demonstrated on a calendar month average.

For the purpose of determining compliance with this limit:

- (1) Every 0.19 million cubic feet of natural gas (MMCF) shall be equivalent to one (1) gallon of waste oil. However, the natural gas usage shall in no case exceed 625 million cubic feet per twelve (12) consecutive month period.
- (2) Every 1.55 gallons of No. 2 fuel oil shall be equivalent to one (1) gallon of waste oil. However, the No. 2 fuel oil usage shall in no case exceed 2,325,000 gallons per twelve (12) consecutive month period.

Compliance with these limits, combined with the SO<sub>2</sub> emissions from other units at the source, will limit source-wide SO<sub>2</sub> emissions to less than 90 tons per twelve (12) consecutive month period. Compliance with these limits will render 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-2 (PSD) not applicable.

- (12) Section D.1.6 is added and the following sections are renumbered:

#### **D.1.6 Hydrogen Chloride (HCl) [326 IAC 2-8-4]**

These limits are required in order to limit the source-wide emissions of HCl to less than 9.5 tons per year.

- (1) The use of waste oil in the 75 MMBtu per hour burner for the aggregate dryer/burner shall be limited to less than 1,439,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) The chlorine content of the waste oil used in the 75 MMBtu per hour burner for the aggregate dryer shall not exceed two tenths of a percent (0.20%) by weight.
- (3) The HCl emissions from the in the 75 MMBtu per hour burner for the aggregate dryer shall be limited to less than 13.2 pounds of HCl per 1,000 gallons of waste oil burned.

**Compliance with these limits will also limit source-wide emissions of combined HAPs to less than 25 tons per year. Therefore, compliance with these limits renders 326 IAC 2-7 (Part 70) not applicable.**

(13) Section D.1.6 is revised for clarification and renumbered, as follows:

**D.1.6 7 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 **drum** mixer, identified as EU B-1, and aggregate dryer/burner, identified as EU B-2, and their control devices.

(14) Section D.1.7 is revised to remove the requirement to test for VOC and CO and renumbered, as follows:

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

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Within 180 days of startup of the ~~one (1)~~ **drum mixer and aggregate dryer/burner**, identified as EU B-4, in order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform CO, VOC, PM, and PM<sub>10</sub> testing of the **drum** mixer and **aggregate** dryer/burner stack exhaust S-1 utilizing methods as approved by the Commissioner.

(15) Section D.1.8 is renumbered as follows:

**D.1.8 9 Sulfur Dioxide Emissions and Sulfur Content**

---

(16) Section D.1.9 is revised for clarification and renumbered, as follows:

**D.1.9 10 Particulate Control**

---

(a) In order to comply with Condition D.1.1, the baghouse for particulate control shall be in operation and control emissions from the **drum** mixer, identified as EU B-1, and **aggregate** dryer/ burner, identified as EU B-2, at all times that the ~~batch mixer processes~~ **drum mixer and aggregate dryer/burner** are in operation.

(17) Section D.1.11 is added, as follows:

**D.1.11 Hydrogen Chloride (HCl) Emissions and Chlorine Content**

---

**In order to comply with Condition D.1.6, the Permittee shall demonstrate that the chlorine content of the fuel used for the aggregate dryer/burner does not exceed two tenths of a percent (0.20%) by weight, when operating on waste oil, by providing a vendor analysis of fuel delivered, when accompanied by a vendor certification.**

(18) Section D.1.10 is revised as follows:

**D.1.10 2 Visible Emissions Notations**

---

(a) Visible emission notations of the drum mixer and **aggregate** dryer/burner stack exhaust, S-1, shall be performed once per day during normal daylight operations.

(19) Section D.1.13 is revised to include inlet temperature monitoring, as follows:

**D.1.13 3 Baghouse Parametric Monitoring**

---

(a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the **drum** mixer, identified as EU B-1, and aggregate dryer/burner, identified as EU B-2, at least once per day when the asphalt production process is in operation. When for any one

reading, the pressure drop across the baghouse is outside the normal range of 1.0 to 8.0 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 are outside the above mentioned ranges 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 Permittee shall record the inlet temperature to 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 inlet temperature to the baghouse is outside the normal range of 200 and 400 degrees Fahrenheit 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. This is required to prevent overheating of the bags and to prevent low temperatures from mudding up the bags. A temperature 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.**
- (c) 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.

(20) Section D.1.12 is renumbered as follows:

#### D.1.12 14 Broken or Failed Bag Detection

(21) Section D.1.13 is revised or clarity and renumbered as follows:

#### D.1.13 15 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.3 and D.1.5 the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly and shall be complete and sufficient to establish compliance with the ~~No. 4 reused fuel oil~~ **waste oil** usage limit and the ~~No. 4 reused fuel oil~~ **waste oil** sulfur content limit established in Conditions D.1.3 and D.1.5.
- ...
- (2) Actual fuel ~~oil~~ usage since last compliance determination period and equivalent sulfur dioxide emissions;
- (b) To document compliance with Condition D.1.12, the Permittee shall maintain once per day records of the visible emission notations **from each of the conveyors, material transfer points, drum mixer and dryer/burner stack exhaust, S-1,** ~~or a record of the reason why no visible emission notations were taken.~~ **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).**
- (c) ~~To document compliance with Condition D.1.11, the Permittee shall maintain once per day records of the pressure drop, or a record of the reason why no pressure drop readings were taken.~~  
**To document compliance with Condition D.1.13, the Permittee shall maintain the following:**
  - (1) **Daily records of the pressure drop across the baghouse controlling the drum mixer and aggregate dryer/burner. 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 aggregate dryer/mixer did not operate that day).**

**(2) Record of the inlet temperature at the baghouse during normal operation once per day. The Permittee shall include in its daily record when a temperature reading is not taken and the reason for the lack of a temperature reading, (e.g., the drum mixer and aggregate dryer/burner did not operate that day).**

- (d) To document compliance with Conditions D.1.1, ~~and~~ D.1.2, **and D.1.4**, the Permittee shall maintain records of the amount of asphalt processed on a monthly basis.
- (e) To document compliance with Conditions D.1.3, D.1.4, D.1.5 and D.1.6, the Permittee shall keep records of the actual amount of each fuel used at the aggregate dryer/burner, since the last compliance determination period and equivalent sulfur dioxide and hydrogen chloride emissions.
- (f) To document compliance with Condition D.1.4, the Permittee shall maintain records of the amount of gelled asphalt with VOC solvent liquid binder used on a monthly basis.**
- (e g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.
- (g h) Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.**
- (22) Section D.1.14 is revised as follows:

**D.1.1417** Reporting Requirements

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- ...
- (b) A quarterly summary of the information to document compliance with Conditions D.1.1 ~~and~~ **through D.1.2 6** shall be submitted to the address 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.
- (23) Section D.1.15 is revised as follows:

**D.1.158** General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

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- (24) Section D.1.18 is revised as follows:

**D.1.169** NSPS Subpart I Requirements [40 CFR Part 60, Subpart I] [326 IAC 12-1]

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- (25) Section D.2 is revised as follows:

Facility Description [326 IAC 2-8-4(10)]: Insignificant Activities

**The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):**

- (a) One (1) hot oil heater, burning No. 2 fuel oil or natural gas, installed in 1999, rated at 2.0 million British thermal units per hour (MMBtu/hr), exhausting through Stack S-2.**
- (b) One (1) cold mix feed system consisting of eight (8) compartments, each with a capacity of 25 tons, with a total aggregate holding capacity of 200 tons.**

- (c) **Cold-mix (stockpile mix) asphalt storage pile(s) with maximum capacity of 800 tons.**
  - (d) **Two (2) liquid asphalt storage tanks, identified as Tanks 7 & 8, constructed in January 1984, each with a capacity of 20,000 gallons, vented to the atmosphere through V-2 & V-3, respectively.**
  - (e) **One (1) used oil storage tank, constructed in January 1984, identified as Tank 6, capacity: 10,000 gallons, vented to the atmosphere through V-1.**
  - (f e) ~~Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons, including two (2) diesel fuel tanks, identified as Tanks 10 and 11, approved for construction in 2007, capacity: 500 gallons, each.~~  
**Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons, including**
    - (1) **Two (2) diesel fuel tanks, identified as Tanks 10 and 11, approved for construction in 2007, capacity: 500 gallons, each.**
    - (2) **One (1) fuel oil storage tank, constructed in January 1984, identified as Tank 9, with a maximum capacity: 300 gallons, exhausting at one (1) stack, identified as V-5.**
  - (g) **Two (2) hot mix asphalt cement storage silos and slat conveyors, storage capacity: 265 tons, each.**
  - (h a) The following VOC and HAP storage containers: vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
  - (i b) Application of oils, greases lubricants or other nonvolatile materials applied as temporary protective coatings.
  - (j e) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
  - (k d) Paved roads and parking lots with public access.
- (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

- (26) The FESOP Quarterly Report form is revised as follows:
- |            |   |
|------------|---|
| Facility:  | Dryer (EU B-2)  |
| Parameter: | No. 4 Reused Fuel Oil   |
| Limit:     | <del>Less than 2,258,288 gallons per twelve (12) consecutive month period with compliance determined at the end of each month</del>   |
| Facility:  | 75 MMBtu per hour aggregate dryer/burner  |
| Parameter: | Waste oil and/or equivalent usage to limit SO <sub>2</sub> and HCl emissions  |
| Limit:     | The use of waste oil with a sulfur content of 0.75% and a maximum chlorine content of 0.2% and/or waste oil equivalents in the 75 MMBtu per hour burner for the aggregate dryer/burner shall be limited to 1,439,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the fuel equivalency ratios in condition D.1.3(d) shall be used. |

- (27) The FESOP Quarterly Report form is revised as follows:  
Facility: ~~Drum Mixer (EU B-1)~~  
Limit: ~~1,414,178.73 tons per twelve (12) consecutive month period, with compliance determined at the end of each month~~  
Facility: Dryer/Burner (EU B-2)  
Parameter: Hot mix asphalt production  
Limit: The amount of hot mix asphalt produced in the dryer/burner shall not exceed 1,320,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (28) A FESOP Quarterly Report form is added as follows:  
Facility: Cold Mix Asphalt Production  
Parameter: VOC Usage  
Limit: Gelled asphalt with VOC solvent liquid binder used in the production of cold mix asphalt shall not exceed 2,000 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 50 tons per twelve (12) consecutive month period.

(b) Upon further review, IDEM, OAQ has decided to make the following changes to the permit. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

- (1) All occurrences of IDEM mailing addresses have been revised to include a mail code (MC) as follows:

Asbestos Section:	<b>MC 61-52 IGCN 1003</b>
Compliance Branch:	<b>MC 61-53 IGCN 1003</b>
Permits Branch:	<b>MC 61-53 IGCN 1003</b>
Technical Support and Modeling Section:	<b>MC 61-50 IGCN 1003</b>

- (2) IDEM has begun implementing a new procedure and will no longer list the name or title of the Authorized Individual (A.I.) in the permit document. Section A.1 is updated as follows:

~~Authorized individual: Vice President, Asphalt Plants~~

- (3) In order to correct a typographical error, Condition C.18(b) is revised from the terminology "one-hundred and twenty" to "one hundred twenty" as follows:

C.18 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4] [326 IAC 2-8-5]

- (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 and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

<b>Conclusion and Recommendation</b>
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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 *(date)*.

This proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Revision No. 109-25533-03229. The staff recommends to the Commissioner that this FESOP Significant Revision be approved.

<b>IDEM Contact</b>
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- (a) Questions regarding this proposed permit can be directed to Sandra Carr 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) 234-5377 or toll free at 1-800-451-6027 extension 4-5377.
- (b) A copy of the findings is available on the Internet at: [www.in.gov/idem/permits/air/pending.html](http://www.in.gov/idem/permits/air/pending.html).
- (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.in.gov/idem/permits/guide/](http://www.in.gov/idem/permits/guide/).

**Appendix A: Emissions Calculations  
Emission Summary**

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

**Asphalt Plant Maximum Capacity**

Maximum Hourly Asphalt Production =	250	ton/hr								
Maximum Annual Asphalt Production =	2,190,000	ton/yr								
Maximum Fuel Input Rate =	75	MMBtu/hr								
Equivalent Natural Gas Usage =	644	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	1.00	% ash	0.200	% chlorine,	0.010	% 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)	150.17	119.67	258.69	46.93	2.35	27.05	33.62	30.97 (hydrogen chloride)
Dryer/Mixer	30660.00	7117.50	63.51	60.23	35.04	142.35	11.67	3.39 (formaldehyde)
<b>Worst Case Emissions</b>	<b>30660.00</b>	<b>7117.50</b>	<b>258.69</b>	<b>60.23</b>	<b>35.04</b>	<b>142.35</b>	<b>33.62</b>	<b>30.97</b> (hydrogen chloride)
<b>Fugitive Emissions</b>								
Asphalt Load-Out, Silo Filling, On-Site Yard	1.21	1.21	0	0	18.76	3.15	0.31	0.10 (formaldehyde)
Hot Oil and Asphalt Heaters	4.00	3.19	6.90	1.25	0.06	0.81	0.898	0.001 (naphthalene)
Material Storage	1.03	0.36	0	0	0.115	0	0	0
Material Processing and Handling	7.07	3.35	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	4.04	1.48	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	77.76	19.82	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	26318.33	0	6864.79	2368.65 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	negl.	0	negl.	negl.
<b>Total Fugitive Emissions</b>	<b>95.13</b>	<b>29.41</b>	<b>6.90</b>	<b>1.25</b>	<b>26337.26</b>	<b>3.97</b>	<b>6866.00</b>	
<b>Totals Unlimited/Uncontrolled PTE</b>	<b>30755.13</b>	<b>7146.91</b>	<b>265.59</b>	<b>61.48</b>	<b>26372.30</b>	<b>146.32</b>	<b>6899.62</b>	<b>2368.65</b> (xylenes)

negl = negligible

## Appendix A: Emissions Calculations

### Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Milestone Contractors, L.P.  
 Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
 Permit Number: 109-25533-03229  
 Reviewer: Sandra Carr  
 Date: February 5, 2008

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 =	2,190,000	ton/yr					
Maximum Fuel Input Rate =	75	MMBtu/hr					
Equivalent Natural Gas Usage =	644	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	1.00	% ash	0.200 % chlorine, 0.010 % 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	64.0	0.61	4.69	150.17	<b>150.17</b>
PM10	7.6	3.3	51	2.45	7.74	119.67	<b>119.67</b>
SO2	0.6	71.0	110.3	0.19	166.60	258.69	<b>258.69</b>
NOx	100	20.0	19.0	32.21	46.93	44.58	<b>46.93</b>
VOC	5.5	0.20	1.0	1.77	0.47	2.35	<b>2.35</b>
CO	84	5.0	5.0	27.05	11.73	11.73	<b>27.05</b>
<b>Hazardous Air Pollutant</b>							
HCl			13.2			30.97	<b>30.97</b>
Antimony			negl			negl	<b>0</b>
Arsenic	2.0E-04	5.6E-04	1.1E-01	6.4E-05	1.31E-03	2.58E-01	<b>0.26</b>
Beryllium	1.2E-05	4.2E-04	negl	3.9E-06	9.86E-04	negl	<b>0.001</b>
Cadmium	1.1E-03	4.2E-04	9.3E-03	3.5E-04	9.86E-04	2.18E-02	<b>0.02</b>
Chromium	1.4E-03	4.2E-04	2.0E-02	4.5E-04	9.86E-04	4.69E-02	<b>0.05</b>
Cobalt	8.4E-05		2.1E-04	2.7E-05		4.93E-04	<b>0.0005</b>
Lead	5.0E-04	1.3E-03	0.55	1.6E-04	2.96E-03	1.3E+00	<b>1.29</b>
Manganese	3.8E-04	8.4E-04	6.8E-02	1.2E-04	1.97E-03	1.60E-01	<b>0.16</b>
Mercury	2.6E-04	4.2E-04		8.4E-05	9.86E-04		<b>0.001</b>
Nickel	2.1E-03	4.2E-04	1.1E-02	6.8E-04	9.86E-04	2.58E-02	<b>0.026</b>
Selenium	2.4E-05	2.1E-03	negl	7.7E-06	4.93E-03	negl	<b>0.005</b>
1,1,1-Trichloroethane							<b>0</b>
1,3-Butadiene							<b>0</b>
Acetaldehyde							<b>0</b>
Acrolein							<b>0</b>
Benzene	2.1E-03			6.8E-04			<b>0.0007</b>
Bis(2-ethylhexyl)phthalate			2.2E-03			5.16E-03	<b>0.005</b>
Dichlorobenzene	1.2E-03		8.0E-07	3.9E-04		1.88E-06	<b>0.0004</b>
Ethylbenzene							<b>0</b>
Formaldehyde	7.5E-02	6.10E-02		2.4E-02	1.43E-01		<b>0.143</b>
Hexane	1.8E+00			0.58			<b>0.580</b>
Phenol			2.4E-03			5.63E-03	<b>0.006</b>
Toluene	3.4E-03			1.1E-03			<b>0.001</b>
Total PAH Haps	negl		3.9E-02	negl		9.17E-02	<b>0.09</b>
Polycyclic Organic Matter		3.30E-03			7.74E-03		<b>0.008</b>
Xylene							<b>0</b>
			<b>Total HAPs</b>	<b>0.61</b>	<b>0.17</b>	<b>32.88</b>	<b>33.62</b>

#### 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

#### 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]

Equivalent Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.0905 MMBtu]

Equivalent Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.0974 MMBtu]

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, No.4, and No.6 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

Propane and Butane: AP-42 Chapter 1.5 (dated 10/96), Tables 1.5-1 (assuming PM = PM10)

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

Diesel Engine Oil: AP-42 Chapter 3.3 (dated 10/96), Tables 3.3-1 and 3.3-2

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

Company Name: Milestone Contractors, L.P.

Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151

Permit Number: 109-25533-03229

Reviewer: Sandra Carr

Date: February 5, 2008

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

Maximum Annual Asphalt Production = 2,190,000 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	No. 6 Fuel Oil or Waste Oil	Natural Gas	No. 2 Fuel Oil	No. 6 Fuel Oil or Waste Oil	
PM	28	28	28	30660	30660	30660	30660
PM10	6.5	6.5	6.5	7117.5	7117.5	7117.5	7117.5
SO <sub>2</sub>	0.0034	0.011	0.058	3.7	12.0	63.5	63.5
NO <sub>x</sub>	0.026	0.055	0.055	28.5	60.2	60.2	60.2
VOC	0.032	0.032	0.032	35.0	35.0	35.0	35.0
CO	0.13	0.13	0.13	142.4	142.4	142.4	142.4
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04			2.30E-01	0.23
Antimony	1.80E-07	1.80E-07	1.80E-07	1.97E-04	1.97E-04	1.97E-04	1.97E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	6.13E-04	6.13E-04	6.13E-04	6.13E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	4.49E-04	4.49E-04	4.49E-04	4.49E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	6.02E-03	6.02E-03	6.02E-03	6.02E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	2.85E-05	2.85E-05	2.85E-05	2.85E-05
Lead	6.20E-07	1.50E-05	1.50E-05	6.79E-04	1.64E-02	1.64E-02	0.02
Manganese	7.70E-06	7.70E-06	7.70E-06	8.43E-03	8.43E-03	8.43E-03	8.43E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	2.63E-04	2.85E-03	2.85E-03	2.85E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	0.07	0.07	0.07	0.07
Selenium	3.50E-07	3.50E-07	3.50E-07	3.83E-04	3.83E-04	3.83E-04	3.83E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.04	0.04	0.04	0.04
Acetaldehyde			1.30E-03			1.42	1.42
Acrolein			2.60E-05			2.85E-02	0.03
Benzene	3.90E-04	3.90E-04	3.90E-04	0.43	0.43	0.43	0.43
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.26	0.26	0.26	0.26
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	3.39	3.39	3.39	3.39
Hexane	9.20E-04	9.20E-04	9.20E-04	1.01	1.01	1.01	1.01
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.05	0.05	0.05	0.05
MEK			2.00E-05			0.02	0.02
Propionaldehyde			1.30E-04			0.14	0.14
Quinone			1.60E-04			0.18	0.18
Toluene	1.50E-04	2.90E-03	2.90E-03	0.16	3.18	3.18	3.18
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.21	0.96	0.96	0.96
Xylene	2.00E-04	2.00E-04	2.00E-04	0.22	0.22	0.22	0.22

**Total HAPs 11.67****Methodology****Worst Single HAP 3.39 (formaldehyde)**

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 11.1-12

\*Emission of PM, PM10, SO<sub>2</sub>, NO<sub>x</sub>, and, CO from Drum-Mix Plants are included with the emission calculations for fuel combustion.

**Abbreviations**

VOC - Volatile Organic Compounds

HAP = Hazardous Air Pollutant

HCl = Hydrogen Chloride

PAH = Polyaromatic Hydrocarbon

SO<sub>2</sub> = Sulfur Dioxide

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

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

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 =	2,190,000	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	0.57	0.64	NA	1.21
Organic PM	3.4E-04	2.5E-04	NA	0.37	0.278	NA	0.65
TOC	0.004	0.012	0.001	4.55	13.34	1.205	19.1
CO	0.001	0.001	3.5E-04	1.48	1.292	0.385	3.15

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

<b>PM/HAPs</b>	<b>0.027</b>	<b>0.032</b>	<b>0</b>	<b>0.058</b>
<b>VOC/HAPs</b>	<b>0.067</b>	<b>0.170</b>	<b>0.018</b>	<b>0.255</b>
<b>non-VOC/HAPs</b>	<b>3.5E-04</b>	<b>3.6E-05</b>	<b>9.3E-05</b>	<b>4.8E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.33</b>	<b>0.19</b>	<b>0.09</b>	<b>0.61</b>

<b>Total VOCs</b>	<b>4.28</b>	<b>13.34</b>	<b>1.1</b>	<b>18.8</b>
<b>Total HAPs</b>	<b>0.09</b>	<b>0.20</b>	<b>0.018</b>	<b>0.31</b>
<b>Worst Single HAP</b>				<b>0.097</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)::

$$\text{Total PM/PM10 Ef} = 0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$$

$$\text{Organic PM Ef} = 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$$

$$\text{TOC Ef} = 0.0172(-V)e^{((0.0251)(T+460)-20.43)}$$

$$\text{CO Ef} = 0.00558(-V)e^{((0.0251)(T+460)-20.43)}$$

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

$$\text{PM/PM10 Ef} = 0.000332 + 0.00105(-V)e^{((0.0251)(T+460)-20.43)}$$

$$\text{Organic PM Ef} = 0.00105(-V)e^{((0.0251)(T+460)-20.43)}$$

$$\text{TOC Ef} = 0.0504(-V)e^{((0.0251)(T+460)-20.43)}$$

$$\text{CO Ef} = 0.00488(-V)e^{((0.0251)(T+460)-20.43)}$$

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: Milestone Contractors, L.P.  
Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
Permit Number: 109-25533-03229  
Reviewer: Sandra Carr  
Date: February 5, 2008

**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%	9.7E-04	1.3E-03	NA	2.3E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	1.0E-04	3.9E-05	NA	1.4E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	2.6E-04	3.6E-04	NA	6.2E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	7.1E-05	1.6E-04	NA	2.3E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	2.8E-05	0	NA	2.8E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	8.2E-06	0	NA	8.2E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	7.1E-06	0	NA	7.1E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	8.6E-06	0	NA	8.6E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	2.9E-05	2.6E-05	NA	5.6E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	3.8E-04	5.8E-04	NA	9.7E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	1.4E-06	0	NA	1.4E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.9E-04	4.2E-04	NA	6.0E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	2.9E-03	2.8E-03	NA	5.7E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.8E-06	0	NA	1.8E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	8.9E-03	1.5E-02	NA	0.024
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	4.7E-03	5.1E-03	NA	9.7E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	8.2E-05	8.3E-05	NA	1.7E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	3.0E-03	5.0E-03	NA	8.0E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	5.6E-04	1.2E-03	NA	1.8E-03
<b>Total PAH HAPs</b>							<b>0.022</b>	<b>0.032</b>	<b>NA</b>	<b>0.054</b>
<b>Other semi-volatile HAPs</b>										
Phenol		PM/HAP	---	Organic PM	1.18%	0	4.4E-03	0	0	0.0044

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)**

Company Name: Milestone Contractors, L.P.  
Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
Permit Number: 109-25533-03229  
Reviewer: Sandra Carr  
Date: February 5, 2008

**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>4.28</b>	<b>13.34</b>	<b>1.13</b>	<b>18.76</b>
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	3.0E-01	3.5E-02	7.8E-02	0.409
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	2.1E-03	7.3E-03	5.5E-04	0.010
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	3.2E-02	1.5E-01	8.6E-03	0.188
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>1.40%</b>	<b>0.332</b>	<b>0.187</b>	<b>0.088</b>	<b>0.61</b>
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	2.4E-03	4.3E-03	6.3E-04	7.3E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	4.4E-04	6.5E-04	1.2E-04	1.2E-03
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	2.2E-03	5.2E-03	5.9E-04	8.0E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	5.9E-04	2.1E-03	1.6E-04	2.9E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	9.6E-06	5.3E-04	2.5E-06	5.5E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	6.8E-04	3.1E-03	1.8E-04	3.9E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	5.0E-03	0	1.3E-03	6.3E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	1.3E-02	5.1E-03	3.4E-03	0.021
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	4.0E-03	9.2E-02	1.1E-03	0.097
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	6.8E-03	1.3E-02	1.8E-03	0.022
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	8.2E-05	4.1E-05	2.2E-05	1.5E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	3.6E-05	0	3.6E-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%	3.3E-04	7.2E-04	8.8E-05	1.1E-03
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	3.5E-04	0	9.3E-05	4.4E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	9.6E-03	8.3E-03	2.5E-03	0.020
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	5.9E-05	0	1.6E-05	7.5E-05
m/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.9E-02	2.7E-02	4.9E-03	0.050
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	3.6E-03	7.6E-03	9.6E-04	1.2E-02
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>1.30%</b>	<b>0.068</b>	<b>0.173</b>	<b>0.018</b>	<b>0.260</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 and Asphalt Heaters

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

The following calculations determine the unlimited/uncontrolled **fugitive** emissions from the hot oil and asphalt heaters

Maximum Fuel Input Rate = 2.0 MMBtu/hr  
 Equivalent Natural Gas Usage = 17.5 MMCF/yr  
 Equivalent No. 2 Fuel Oil Usage = 125,143 gal/yr, and

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE
	Natural Gas (lb/ft <sup>3</sup> )	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	
VOC	2.60E-08	2.65E-05	2.28E-04	0.002	0.002
CO	8.90E-06	0.0012	0.078	0.075	0.078
<b>Hazardous Air Pollutant</b>					
Formaldehyde:	2.60E-08	3.50E-06	2.28E-04	2.19E-04	2.28E-04
Acenaphthene		5.30E-07		3.32E-05	3.32E-05
Acenaphthylene		2.00E-07		1.25E-05	1.25E-05
Anthracene		1.80E-07		1.13E-05	1.13E-05
Benzo(b)fluoranthene		1.00E-07		6.26E-06	6.26E-06
Fluoranthene		4.40E-08		2.75E-06	2.75E-06
Fluorene		3.20E-08		2.00E-06	2.00E-06
Naphthalene		1.70E-05		1.06E-03	1.06E-03
Phenanthrene		4.90E-06		3.07E-04	3.07E-04
Pyrene		3.20E-08		2.00E-06	2.00E-06
<b>Total HAPs</b>					<b>0.0017</b>
<b>Worst Single HAP</b>					<b>0.0011 (Naphthalene)</b>

### 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

### Abbreviations

CO = Carbon Monoxide

VOC = Volatile Organic Compound

### Appendix A: Emissions Calculations Hot Oil Heater - Combustion

Company Name: Milestone Contractors, L.P.  
 Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
 Permit Number: 109-25533-03229  
 Reviewer: Sandra Carr  
 Date: February 5, 2008

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 Fuel Input Rate =	2	MMBtu/hr					
Equivalent Natural Gas Usage =	17.5	MMCF/yr					
Equivalent No. 2 Fuel Oil Usage =	125,143	gal/yr, and	0.50	% sulfur			
Equivalent Used/Waste Oil Usage =	125,143	gal/yr, and	0.75	% sulfur	1.00	% ash	0.200 % chlorine, 0.010 % 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	64.0	0.02	0.13	4.00	4.00
PM10	7.6	3.3	51	0.07	0.21	3.19	3.19
SO2	0.6	71.0	110.3	0.01	4.44	6.90	6.90
NOx	100	20.0	19.0	0.88	1.25	1.19	1.25
VOC	5.5	0.20	1.0	0.05	0.01	0.06	0.06
CO	84	5.0	5.0	0.74	0.31	0.31	0.74
<b>Hazardous Air Pollutant</b>							
HCl			13.2			0.83	0.83
Arsenic	2.0E-04	5.6E-04	1.1E-01	1.8E-06	3.50E-05	6.88E-03	6.9E-03
Beryllium	1.2E-05	4.2E-04	negl	1.1E-07	2.63E-05	negl	2.6E-05
Cadmium	1.1E-03	4.2E-04	9.3E-03	9.6E-06	2.63E-05	5.82E-04	5.8E-04
Chromium	1.4E-03	4.2E-04	2.0E-02	1.2E-05	2.63E-05	1.25E-03	0.001
Cobalt	8.4E-05		2.1E-04	7.4E-07		1.31E-05	1.3E-05
Lead	5.0E-04	1.3E-03	0.55	4.4E-06	7.88E-05	3.4E-02	0.03
Manganese	3.8E-04	8.4E-04	6.8E-02	3.3E-06	5.26E-05	4.25E-03	0.004
Mercury	2.6E-04	4.2E-04		2.3E-06	2.63E-05		2.6E-05
Nickel	2.1E-03	4.2E-04	1.1E-02	1.8E-05	2.63E-05	6.88E-04	0.001
Selenium	2.4E-05	2.1E-03	negl	2.1E-07	1.31E-04	negl	1.3E-04
Benzene	2.1E-03			1.8E-05			1.8E-05
Bis(2-ethylhexyl)phthalate			2.2E-03			1.38E-04	1.4E-04
Dichlorobenzene	1.2E-03		8.0E-07	1.1E-05		5.01E-08	1.1E-05
Formaldehyde	7.5E-02	6.10E-02		6.6E-04	3.82E-03		0.004
Hexane	1.8E+00			0.02			0.016
Phenol			2.4E-03			1.50E-04	1.5E-04
Toluene	3.4E-03			3.0E-05			3.0E-05
Total PAH Haps	negl		3.9E-02	negl		2.45E-03	0.002
Polycyclic Organic Matter		3.30E-03			2.06E-04		2.1E-04
<b>Total HAPs</b>				<b>0.017</b>	<b>0.004</b>	<b>0.88</b>	<b>0.90</b>

**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

**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]

Equivalent Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.0905 MMBtu]

Equivalent Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.0974 MMBtu]

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, No.4, and No.6 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

Propane and Butane: AP-42 Chapter 1.5 (dated 10/96), Tables 1.5-1 (assuming PM = PM10)

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

Diesel Engine Oil: AP-42 Chapter 3.3 (dated 10/96), Tables 3.3-1 and 3.3-2

## Appendix A: Emissions Calculations Material Storage

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

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.

### Dry Storage

$$E_f = 1.7 * (s/1.5) * (365-p) / 235 * (f/15)$$

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	1.10	0.372	0.130
Sand	2.6	3.01	0.30	0.165	0.058
RAP	0.5	0.58	0.75	0.079	0.028
Gravel	1.6	1.85	1.00	0.338	0.118
Slag	3.8	4.40	0.10	0.080	0.028
<b>Totals</b>				<b>1.03</b>	<b>0.36</b>

#### Methodology

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)

\*\*Maximum pile size (acres) anticipated for a source with an annual asphalt production of 2,190,000 tons/yr

#### Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PTE = Potential to Emit

### Liquid Storage

The following table shows the amount of emissions created by storage of various liquids based on 8,760 hours of use and USEPA's Tanks 4.0.9 program.

Tanks	Contents	(lbs VOC/yr)	(tons VOC/yr)
Tank 6	Used Oil	9.70	0.005
Tanks 9, 10, and 11	Fuel Oil	30.0	0.015
Tanks 7 & 8	Liquid Asphalt Cement	190.0	0.095
<b>Total</b>		<b>230</b>	<b>0.115</b>

NOTE: Data in liquid storage table is from Indiana Department of Environmental Management, Office of Air Quality permit number 109-23689-03229.

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

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

**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 $\leq 100$ $\mu\text{m}$ )
$k$ (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter $\leq 10$ $\mu\text{m}$ )
$U$ =	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 =	2,190,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	2,080,500	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	2.36	1.12
Front-end loader dumping of materials into feeder bins	2.36	1.12
Conveyor dropping material into dryer/mixer or batch tower	2.36	1.12
<b>Total (tons/yr)</b>	<b>7.07</b>	<b>3.35</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	0.00	0.00
Screening	0.025	0.0087	0.00	0.00
Conveying** (stone + RAP)	0.003	0.0011	4.04	1.48
<b>Limited Potential to Emit (tons/yr) =</b>			<b>4.04</b>	<b>1.48</b>

**NOTE: Source reports there are no stone crushing or stone screening operations at this site.**

**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 stone/gravel, slag, and recycled asphalt pavement (RAP)

Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2

\*Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).

\*\*Maximum Material Handling Throughput = 70 tons RAP/hr OR 613,200 tons RAP/yr

**Abbreviations**

PM = Particulate Matter

PM10 = Particulate Matter (<10  $\mu\text{m}$ )

PTE = Potential to Emit

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

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

#### 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 = 2,190,000 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Material Handling Throughput = 2,080,500 tons/yr  
 Maximum Asphalt Cement/Binder Throughput = 109,500 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	9.3E+04	3.7E+06	300	0.057	5277.2
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	9.3E+04	1.6E+06	300	0.057	5277.2
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	3.0E+03	1.5E+05	300	0.057	172.8
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	3.0E+03	3.7E+04	300	0.057	172.8
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	5.0E+05	9.5E+06	300	0.057	28145.3
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	5.0E+05	7.4E+06	300	0.057	28145.3
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	9.1E+04	3.7E+06	300	0.057	5184.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	9.1E+04	1.6E+06	300	0.057	5184.7
<b>Total</b>					<b>1.4E+06</b>	<b>2.8E+07</b>			<b>7.8E+04</b>

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

Unmitigated Emission Factor,  $E_f = k[(s/12)^a][(W/3)^b]$  (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,  $E_{ext} = E * [(365 - P)/365]$   
 Mitigated Emission Factor,  $E_{ext} = E * [(365 - P)/365]$   
 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)	16.08	4.10	10.57	2.70	5.29	1.35
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	16.08	4.10	10.57	2.70	5.29	1.35
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.527	0.134	0.346	0.088	0.173	0.044
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.527	0.134	0.346	0.088	0.173	0.044
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)	85.77	21.86	56.40	14.37	28.20	7.19
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	85.77	21.86	56.40	14.37	28.20	7.19
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	15.80	4.03	10.39	2.65	5.19	1.32
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	15.80	4.03	10.39	2.65	5.19	1.32
<b>Totals</b>		<b>236.53</b>	<b>60.28</b>	<b>155.53</b>	<b>39.64</b>	<b>77.76</b>	<b>19.82</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  
Fugitive Dust Emissions - Paved Roads**

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

**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 =	2,190,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	2,080,500	tons/yr
Maximum Asphalt Cement/Binder Throughput =	109,500	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	9.3E+04	3.7E+06	300	0.057	
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	9.3E+04	1.6E+06	300	0.057	5277.2
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	3.0E+03	1.5E+05	300	0.057	172.8
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	3.0E+03	3.7E+04	300	0.057	172.8
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	5.0E+05	9.5E+06	300	0.057	28145.3
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	5.0E+05	7.4E+06	300	0.057	28145.3
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	9.1E+04	3.7E+06	300	0.057	5184.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	9.1E+04	1.6E+06	300	0.057	5184.7
<b>Total</b>					<b>1.4E+06</b>	<b>2.8E+07</b>			<b>7.8E+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 months)

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, $E_f =$	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)	1.74	0.34	1.59	0.31	0.79	0.15
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	1.74	0.34	1.59	0.31	0.79	0.15
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.057	0.011	0.052	0.010	0.026	5.1E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.057	0.011	0.052	0.010	0.026	5.1E-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)	9.26	1.80	8.46	1.65	4.23	0.82
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	9.26	1.80	8.46	1.65	4.23	0.82
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	1.71	0.33	1.56	0.30	0.78	0.15
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	1.71	0.33	1.56	0.30	0.78	0.15
<b>Totals</b>		<b>25.53</b>	<b>4.97</b>	<b>23.34</b>	<b>4.54</b>	<b>11.67</b>	<b>2.27</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:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

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 = 2,190,000 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Asphalt Cement/Binder Throughput = 109,500 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%	27703.5	26318.3
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	31317.0	21921.9
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	21900.0	5475.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	16425.0	7621.2
Other asphalt with solvent binder	25.9%	2.5%	28360.5	709.0
<b>Worst Case PTE of VOC =</b>				<b>26318.3</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>6864.79</b>	
<b>PTE of Single HAP (tons/yr) =</b>	<b>2368.65</b>	<b>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/tpb.htm>

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Appendix A: Emissions Calculations  
Fuel Usage Limits**

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

In order to qualify for the FESOP program, this source must limit PM10, SO2, NOx, and CO emissions to <100 tons per year. This source has agreed to limit emissions to 90 tons per year for all criteria pollutants and 9.5 tons for the hazardous air pollutant hydrochloric acid.:

**Hot oil heater combustion for NOx and SO2**

PTE NOx for #2 fuel oil in hot oil heater =	1.26	tons NOx/yr			
PTE SO2 for #2 fuel oil in hot oil heater =	4.47	tons SO2/yr			
PTE CO for Natural Gas in hot oil heater, etc.. =	3.97	tons CO/yr			
SO2 limited emissions=	90 tons per year -	4.47	tpy from the hot oil heater =	85.53	tons SO2 per year
NOx limited emissions=	90 tons per year -	1.26	tpy from the hot oil heater =	88.74	tons NOx per year
CO limited emissions=	90 tons per year -	3.97	tpy from the hot oil heater, silo, & loadout =	86.03	tons CO per year
HCL limited emissions=	9.50 tons per year				

\* Emissions of PM and PM-10 from aggregate drying operations are controlled with 99.9 % control efficiency.

**Fuel Usage Limitations**

**Fuel: #2 distillate oil**

**SO2**

$$\frac{85.53 \text{ tons SO2/year limited - max without exceeding limit}}{166.60 \text{ tons SO2/year potential - dryer worst case}} \times 4,726.62 = \frac{\text{Kgals}}{\text{year potential}}$$

**Therefore, the use of #2 distillate fuel oil in the dryer/burner is limited to less than or equal to **2,427 Kgals year****

Since the allowable fuel usage based upon SO2 is less than the allowable fuel usage based upon NOx, limiting SO2 emissions to less than 90 tons per year will also limit source wide NOx emissions to less than 100 tons per year. Therefore, the fuel usage limit based on SO2 will be included in the permit.

**Fuel: Natural Gas**

**CO**

$$\frac{86.03 \text{ tons CO/year limited - max without exceeding limit of silo, heater, load}}{142.35 \text{ tons CO/year potential - dryer worst case}} \times 5,532 = \frac{\text{MMCF}}{\text{year potential}}$$

**Therefore, the use of natural gas in the dryer/burner is limited to less than or equal to **3343 MMCF year****

**NOx**

The worst case potential to emit of NOx from Natural Gas fuel combustion is = 46.93 tons/yr, which is ≤ 88.74  
 Therefore, no fuel usage limit based on NOx is required to limit source wide NOx emissions to less than 100 tons.

**Fuel: Used / waste oil**

**CO**

$$\frac{86.03 \text{ tons CO/year limited - max without exceeding limit}}{142.35 \text{ tons CO/year potential - dryer worst case}} \times 4,693 = \frac{\text{Kgals}}{\text{year potential}} = 2,836 \text{ Kgals year limited}$$

**HCl**

$$\frac{9.50 \text{ tons HCl/year limited}}{30.97 \text{ tons HCl/year potential - worst case}} \times 4,693 = \frac{\text{Kgals}}{\text{year potential}} = 1,439 \text{ Kgals year limited}$$

**Therefore, the use of used/waste oil in the dryer/burner is limited to less than or equal to **1,439 Kgals year****

The worst case potential to emit of NOx from No. 2 or waste oil fuel combustion is = 60.23 tons/yr, which is ≤ 88.74  
 Therefore, no fuel usage limit based on NOx is required to limit source wide NOx emissions to less than 100 tons.

Since the allowable fuel usage based upon HCl is less than the allowable fuel usage based upon CO, limiting HCl emissions to less than 9.5 tons per year will also limit the potential to emit of CO from waste oil combustion to less than 90 tons per year. Therefore, the fuel usage limit based on HCl will be included in the permit for waste oil.

**Appendix A: Emissions Calculations  
Compliance**

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

In order to qualify for the FESOP program, this source must limit PM10, SO2, NOx, and CO emissions to <100 tons per year. This source has agreed to limit emissions to 90 tons per year for all criteria pollutants and 9.5 tons for the hazardous air pollutant hydrochloric acid.:

**326 IAC 8-1-6 (BACT) Compliance Calculations:**

Baghouse Efficiency (%) = **99.9**

At this source, PM-10 emissions will be limited by baghouse control. The CO emissions shall be limited by limiting the production of HMA.

Based on the US EPA's AP-42, 5th Edition, Section 11.1 - Hot Mix Asphalt Plants, Table 11.1-3 for a drum mixer/dryer which has the capability of combusting waste oil and a CO dryer/mixer limit of 0.13 lb/ton of asphalt, limiting the annual asphalt throughput to 1,320,000 tons will result in CO emissions of 85.8 tons/year.

The unlimited, uncontrolled VOC emissions created by aggregate drying are 35.0 ton/yr.

Based on the US EPA's AP-42, 5th Edition, Section 11.1 - Hot Mix Asphalt Plants, Table 11.1-3 for a drum mixer/dryer which has the capability of combusting waste oil and a VOC dryer/mixer limit of 0.032 lb/ton of asphalt, limiting the annual asphalt throughput to 1,320,000 tons will result in VOC emissions of 21.12 tons/year.

Limiting VOC emissions from the drum mixer and aggregate dryer/burner to less than 24.9 tons per year will make the requirements of 326 IAC 8-1-6 not applicable.

**326 IAC 7 Compliance Calculations:**

The following calculations determine the maximum sulfur content of distillate # 2 fuel oil allowable by 326 IAC 7:

0.5 lb/MMBtu x	139,000 Btu/gal=	69.5 lb/1000gal
69.5 lb/1000gal /	142 lb/1000 gal =	0.5 %
<b>Sulfur content must be ≤ 0.5 to comply with 326 IAC 7.</b>		<b>(Will be able to comply)</b>

The following calculations determine the maximum sulfur content of used/waste oil allowable by 326 IAC 7:

1.6 lb/MMBtu x	140,000 Btu/gal=	224 lb/1000gal
224 lb/1000gal /	150 lb/1000 gal =	1.5 %
<b>Sulfur content must be ≤ 1.5 to comply with 326 IAC 7. **</b>		<b>(Will be able to comply)</b>

\*\*The source has agreed to limit the sulfur content in the waste oil used for fuel to 0.75% by weight.

**PM-10 Emission Limit for Drum Mixer and Aggregate Dryer pursuant to 326 IAC 2-8 (FESOP):**

\*\*Source has agreed to accept a source-wide PM10 limit of 90 tons per year.

(90 tons PM-10/yr -	29.41	tons PM-10/yr from other sources) =
60.59	tons PM-10/yr	= 13.83 lbs/hr

**(Will be able to comply)**

Controlled PM-10 emissions from the aggregate mixer and dryer are	1.38	lbs/hr which is ≤	13.83	lbs/hr
Based on a maximum HMA production of	1,320,000	tons/yr, this emission limit is equivalent to	0.092	lb PM-10/ ton

**PM Emission Limit for the Drum Mixer and Aggregate Dryer to render 326 IAC 2-2 (PSD) not applicable:**

\*\*Source has agreed to accept a source-wide PM limit of 225 tons per year.

Source-wide emissions of PM must be less than 250 tons per year such that the requirements of 326 IAC 2-2 (PSD) are not applicable.

Therefore, PM from the aggregate dryer/mixer shall be limited as follows:

(225 tons PM/yr -	95.13	tons PM/yr from other sources) =
129.87	tons PM/yr	= 29.65 lbs/hr

**(Will be able to comply)**

Controlled PM emissions from the aggregate mixer and dryer are	2.97	lbs/hr which is ≤	29.65	lbs/hr
Based on a maximum HMA production of	1,320,000	tons/yr, this emission limit is equivalent to	0.197	lb PM/ ton

**Appendix A: Emissions Calculations  
Compliance**

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

**326 IAC 6-3-2 Compliance Calculations:**

The following calculations determine compliance with 326 IAC 6-3-2 for the aggregate drying process with a process weight rates in excess of 30 tons per hour:

For a 250 Tons per Hour Drum Mixer Plant:

$$\text{limit} = 55 * (250^{0.11}) - 40 = 60.957 \text{ lb/hr OR } 266.99 \text{ tons/yr}$$

**40 CFR Part 60.90, Subpart I (Standards of Performance for Hot Mix Asphalt Plants) and 326 IAC 6.5 Compliance Calculations:**

The following calculations determine compliance with NSPS 40 CFR Part 60.90, Subpart I, which limits stack emissions of particulates from asphalt plants to  $\leq 0.04$  gr/dscf:

$$\frac{46.05 \text{ ton/yr}}{525,600 \text{ min/yr}} * \frac{2000 \text{ lb/ton}}{29,665 \text{ dscf/min}} * 7000 \text{ gr/lb} = 0.041 \text{ gr/dscf} \quad \text{(Will need Control to comply)}$$

$$0.04 \text{ gr/dscf} * \frac{29,665 \text{ dscf/min}}{2000 \text{ lb/ton}} * \frac{525,600 \text{ min/yr}}{7000 \text{ gr/lb}} = 44.55 \text{ tons/yr}$$

Allowable particulate emissions under NSPS equate to less than or equal to 44.55 tons per year. OR 10.17 lbs/hr

46.05 < 44.55 ton/yr so **(Will need Control to comply)**

Allowable particulate emissions under 326 IAC 6.5 equate to less than or equal to 33.41 tons per year. OR 7.63 lbs/hr

46.05 < 33.41 ton/yr so **(Will need Control to comply)**

**The limit for 6-3-2 is equal to 60.95 lb/hr which is less stringent than 10.17 lb/hr, therefore, 40 CFR Part 60.90, Subpart I will apply.**

After controls are implemented, the particulate emissions (PM) for this source are = 6.16 tons/yr

To comply with Subpart I, the following statement: 6.16 < 44.55 must be true. **(Will be able to comply)**

To comply with 326 IAC 6.5, the following statement: 6.16 < 33.41 must be true. **(Will be able to comply)**

SCFM =	61,000	acfm * (460 + 68) / (460 + °F of exhaust gas) x ((100- Moisture %)/100)
	29,665	scfm
Exhaust gas temp (°F) =	300	°F
Exhaust gas flow rate =	61000	acfm
Moisture (%) =	30	

**Lead Emissions**

The following calculations determine the amount of emissions created by the combustion of used/waste oil before and after controls @

**0.0089** % lead, based on 8760 hours of use and US EPA's AP-42, 5th Edition, Section 1.11 - Waste Oil Combustion, Tables 1.11-1, 1.11-2, and 1.11-3.

$$\frac{75 \text{ MMBtu/hr}}{140,000 \text{ Btu/gal}} * \frac{8760 \text{ hr/yr}}{2000 \text{ lb/ton}} * \frac{\text{Ef (lb/10}^12 \text{ Btu)}}{1000 \text{ gal/kgal}} = \text{tons per year PTE}$$

Emission Factor for Lead = 0.4895 lb/1000 gal      **Potential to Emit** 1.15 ton/yr      **Limited Emissions** 0.001 ton/yr  
 Control Efficiency = 99.9%

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

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

**Asphalt Plant Limitations**

Annual Asphalt Production Limitation =	1,320,000	ton/yr
Natural Gas Limitation =	625	MMCF/yr
No. 2 Fuel Oil Limitation =	2,325,000	gal/yr, and 0.50 % sulfur
Used/Waste Oil Limitation =	1,439,000	gal/yr, and 0.75 % sulfur 1.00 % ash 0.20 % chlorine, 0.010 % lead
<b>*Source verified the sulfur, chlorine, and lead content of the waste oil.</b>		
PM Dryer/Mixer Limitation =	0.197	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.092	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 =	50	tons/yr

Note: AP-42 uncontrolled emission factor for CO is 0.13 lb/ton  
Note: AP-42 uncontrolled emission factor for VOC is 0.032 lb/ton

**Limited Emissions**

Process Description	Limited 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)	46.05	36.69	82.54	31.25	1.72	26.25	10.72	9.50	(hydrogen chloride)
Dryer/Mixer	129.87	60.59	38.28	36.30	21.12	85.80	7.04	2.05	(formaldehyde)
<b>Worst Case Emissions</b>	<b>129.87</b>	<b>60.59</b>	<b>82.54</b>	<b>36.30</b>	<b>21.12</b>	<b>85.80</b>	<b>10.72</b>	<b>9.50</b>	(hydrogen chloride)
<b>Fugitive Emissions</b>									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.72	0.72	0	0	11.13	1.87	0.19	0.06	(formaldehyde)
Hot Oil and Asphalt Heaters	4.00	3.19	6.90	1.25	0.06	0.81	0.90	0.001	(naphthalene)
Material Storage	1.03	0.36	0	0	0	0	0	0	
Material Processing and Handling	4.26	2.02	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	2.02	1.03	0	0	0	0	0	0	
Paved and Unpaved Roads (worst case)	46.86	11.94	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	50.00	0	13.04	4.50	(xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0.11	0	negl.	negl.	
<b>Total Fugitive Emissions</b>	<b>58.90</b>	<b>19.26</b>	<b>6.90</b>	<b>1.25</b>	<b>61.31</b>	<b>2.69</b>	<b>14.13</b>		
<b>Totals Limited Emissions</b>	<b>188.8</b>	<b>90</b>	<b>90</b>	<b>37.6</b>	<b>90</b>	<b>90</b>	<b>24.85</b>	<b>9.50</b>	(hydrogen chloride)

negl = negligible

\* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to anominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". The US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

## Appendix A: Emissions Calculations Limited Emissions

### Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Milestone Contractors, L.P.  
Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
Permit Number: 109-25533-03229  
Reviewer: Sandra Carr  
Date: February 5, 2008

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

#### Production and Fuel Limitations

Annual Asphalt Production Limitation =	1,320,000	ton/yr					
Natural Gas Limitation =	625	MMCF/yr					
No. 2 Fuel Oil Limitation =	2,325,000	gal/yr, and	0.50	% sulfur			
Used/Waste Oil Limitation =	1,439,000	gal/yr, and	0.75	% sulfur	1.00	% ash	0.200
							0.010
							% chlorine

#### 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	64.0	0.59	2.33	46.05	<b>46.05</b>
PM10	7.6	3.3	51	2.38	3.84	36.69	<b>36.69</b>
SO2	0.6	71.0	110.3	0.19	82.54	79.32	<b>82.54</b>
NOx	100	20.0	19.0	31.25	23.25	13.67	<b>31.25</b>
VOC	5.5	0.20	1.0	1.72	0.23	0.72	<b>1.72</b>
CO	84	5.0	5.0	26.25	5.81	3.60	<b>26.25</b>
<b>Hazardous Air Pollutant</b>							
HCl			13.2			9.50	<b>9.50</b>
Antimony			negl			negl	<b>0.0E+00</b>
Arsenic	2.0E-04	5.6E-04	1.1E-01	6.3E-05	6.51E-04	7.91E-02	<b>7.9E-02</b>
Beryllium	1.2E-05	4.2E-04	negl	3.8E-06	4.88E-04	negl	<b>4.9E-04</b>
Cadmium	1.1E-03	4.2E-04	9.3E-03	3.4E-04	4.88E-04	6.69E-03	<b>6.7E-03</b>
Chromium	1.4E-03	4.2E-04	2.0E-02	4.4E-04	4.88E-04	1.44E-02	<b>1.4E-02</b>
Cobalt	8.4E-05		2.1E-04	2.6E-05		1.51E-04	<b>1.5E-04</b>
Lead	5.0E-04	1.3E-03	0.55	1.6E-04	1.46E-03	4.0E-01	<b>0.40</b>
Manganese	3.8E-04	8.4E-04	6.8E-02	1.2E-04	9.77E-04	4.89E-02	<b>0.05</b>
Mercury	2.6E-04	4.2E-04		8.1E-05	4.88E-04		<b>4.9E-04</b>
Nickel	2.1E-03	4.2E-04	1.1E-02	6.6E-04	4.88E-04	7.91E-03	<b>0.008</b>
Selenium	2.4E-05	2.1E-03	negl	7.5E-06	2.44E-03	negl	<b>2.4E-03</b>
1,1,1-Trichloroethane							<b>0.0E+00</b>
1,3-Butadiene							<b>0.0E+00</b>
Acetaldehyde							<b>0.0E+00</b>
Acrolein							<b>0.0E+00</b>
Benzene	2.1E-03			6.6E-04			<b>6.6E-04</b>
Bis(2-ethylhexyl)phthalate			2.2E-03			1.58E-03	<b>1.6E-03</b>
Dichlorobenzene	1.2E-03		8.0E-07	3.8E-04		5.76E-07	<b>3.8E-04</b>
Ethylbenzene							<b>0.0E+00</b>
Formaldehyde	7.5E-02	6.10E-02		2.3E-02	7.09E-02		<b>0.071</b>
Hexane	1.8E+00			0.56			<b>0.563</b>
Phenol			2.4E-03			1.73E-03	<b>1.7E-03</b>
Toluene	3.4E-03			1.1E-03			<b>1.1E-03</b>
Total PAH Haps	negl		3.9E-02	negl		2.81E-02	<b>2.8E-02</b>
Polycyclic Organic Matter		3.30E-03			3.84E-03		<b>3.8E-03</b>
Xylene							<b>0.0E+00</b>
<b>Total HAPs</b>				<b>0.59</b>	<b>0.08</b>	<b>10.08</b>	<b>10.72</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, No.4, and No.6 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
- Propane and Butane: AP-42 Chapter 1.5 (dated 10/96), Tables 1.5-1 (assuming PM = PM10)
- 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
- Diesel Engine Oil: AP-42 Chapter 3.3 (dated 10/96), Tables 3.3-1 and 3.3-2

#### 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:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

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

Annual Asphalt Production Limitation =	1,320,000	ton/yr
PM Dryer/Mixer Limitation =	0.197	lb/ton of asphlt production
PM10 Dryer/Mixer Limitation =	0.092	lb/ton of asphlt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphlt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphlt 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	0.197	0.197	0.197	129.9	129.9	129.9	<b>129.9</b>
PM10	0.092	0.092	0.092	60.6	60.6	60.6	<b>60.6</b>
SO2	0.0034	0.011	0.058	2.2	7.3	38.3	<b>38.3</b>
NOx	0.026	0.055	0.055	17.2	36.3	36.3	<b>36.3</b>
VOC	0.032	0.032	0.032	21.1	21.1	21.1	<b>21.1</b>
CO	0.13	0.13	0.13	85.8	85.8	85.8	<b>85.8</b>
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04			0.14	<b>0.14</b>
Antimony	1.80E-07	1.80E-07	1.80E-07	1.19E-04	1.19E-04	1.19E-04	<b>0.0001</b>
Arsenic	5.60E-07	5.60E-07	5.60E-07	3.70E-04	3.70E-04	3.70E-04	<b>0.0004</b>
Beryllium	negl	negl	negl	negl	negl	negl	<b>0</b>
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.71E-04	2.71E-04	2.71E-04	<b>0.0003</b>
Chromium	5.50E-06	5.50E-06	5.50E-06	3.63E-03	3.63E-03	3.63E-03	<b>0.004</b>
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.72E-05	1.72E-05	1.72E-05	<b>1.72E-05</b>
Lead	6.20E-07	1.50E-05	1.50E-05	4.09E-04	9.90E-03	9.90E-03	<b>0.010</b>
Manganese	7.70E-06	7.70E-06	7.70E-06	5.08E-03	5.08E-03	5.08E-03	<b>0.005</b>
Mercury	2.40E-07	2.60E-06	2.60E-06	1.58E-04	1.72E-03	1.72E-03	<b>0.002</b>
Nickel	6.30E-05	6.30E-05	6.30E-05	4.16E-02	4.16E-02	4.16E-02	<b>0.042</b>
Selenium	3.50E-07	3.50E-07	3.50E-07	2.31E-04	2.31E-04	2.31E-04	<b>0.0002</b>
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	2.64E-02	2.64E-02	2.64E-02	<b>0.0264</b>
Acetaldehyde			1.30E-03			0.86	<b>0.86</b>
Acrolein			2.60E-05			1.72E-02	<b>0.02</b>
Benzene	3.90E-04	3.90E-04	3.90E-04	0.26	0.26	0.26	<b>0.26</b>
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.16	0.16	0.16	<b>0.16</b>
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	2.05	2.05	2.05	<b>2.05</b>
Hexane	9.20E-04	9.20E-04	9.20E-04	0.61	0.61	0.61	<b>0.61</b>
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.03	0.03	0.03	<b>0.03</b>
MEK			2.00E-05			0.01	<b>0.01</b>
Propionaldehyde			1.30E-04			0.09	<b>0.09</b>
Quinone			1.60E-04			0.11	<b>0.11</b>
Toluene	1.50E-04	2.90E-03	2.90E-03	0.10	1.91	1.91	<b>1.91</b>
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.13	0.58	0.58	<b>0.58</b>
Xylene	2.00E-04	2.00E-04	2.00E-04	0.13	0.13	0.13	<b>0.13</b>

**Total HAPs 7.04**  
**Worst Single HAP 2.05 (formaldehyde)**

**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 11.1-12

\*Emission of PM, PM10, SO2, NOx, and, CO from Drum-Mix Plants are included with the emission calculations for fuel combustion.

**Abbreviations**

VOC - Volatile Organic Compounds  
HCl = Hydrogen Chloride  
SO2 = Sulfur Dioxide

HAP = Hazardous Air Pollutant  
PAH = Polyaromatic Hydrocarbon

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

Company Name: Milestone Contractors, L.P.  
Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
Permit Number: 109-25533-03229  
Reviewer: Sandra Carr  
Date: February 5, 2008

**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%	5.9E-04	7.9E-04	NA	1.4E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	6.3E-05	2.3E-05	NA	8.6E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.6E-04	2.2E-04	NA	3.8E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	4.3E-05	9.4E-05	NA	1.4E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.7E-05	0.0E+00	NA	1.7E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	5.0E-06	0.0E+00	NA	5.0E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	4.3E-06	0.0E+00	NA	4.3E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	5.2E-06	0.0E+00	NA	5.2E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.8E-05	1.6E-05	NA	3.3E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	2.3E-04	3.5E-04	NA	5.8E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	8.3E-07	0.0E+00	NA	8.3E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.1E-04	2.5E-04	NA	3.6E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.7E-03	1.7E-03	NA	3.4E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.1E-06	0.0E+00	NA	1.1E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	5.4E-03	8.8E-03	NA	0.014
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	2.8E-03	3.0E-03	NA	5.9E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	5.0E-05	5.0E-05	NA	1.0E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.8E-03	3.0E-03	NA	4.8E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	3.4E-04	7.4E-04	NA	1.1E-03
<b>Total PAH HAPs</b>							<b>0.013</b>	<b>0.019</b>	<b>NA</b>	<b>0.032</b>
<b>Other semi-volatile HAPs</b>										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.7E-03	0	0	2.7E-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)**

Company Name: Milestone Contractors, L.P.  
Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
Permit Number: 109-25533-03229  
Reviewer: Sandra Carr  
Date: February 5, 2008

**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>2.58</b>	<b>8.04</b>	<b>0.68</b>	<b>11.31</b>
<b>non-VOC/non-HAPS</b>										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.8E-01	2.1E-02	4.7E-02	0.247
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.3E-03	4.4E-03	3.3E-04	0.006
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.9E-02	8.8E-02	5.2E-03	0.113
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>1.40%</b>	<b>0.200</b>	<b>0.113</b>	<b>0.053</b>	<b>0.37</b>
<b>Volatile organic HAPs</b>										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.4E-03	2.6E-03	3.8E-04	4.4E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.6E-04	3.9E-04	7.0E-05	7.3E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.3E-03	3.1E-03	3.6E-04	4.8E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	3.6E-04	1.3E-03	9.4E-05	1.7E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	5.8E-06	3.2E-04	1.5E-06	3.3E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	4.1E-04	1.8E-03	1.1E-04	2.4E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	3.0E-03	0	8.0E-04	3.8E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	7.7E-03	3.1E-03	2.0E-03	0.013
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	2.4E-03	5.5E-02	6.4E-04	0.059
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	4.1E-03	8.0E-03	1.1E-03	0.013
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	4.9E-05	2.5E-05	1.3E-05	8.7E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.2E-05	0	2.2E-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%	2.0E-04	4.3E-04	5.3E-05	6.9E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.1E-04	0	5.6E-05	2.7E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	5.8E-03	5.0E-03	1.5E-03	0.012
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	3.6E-05	0	9.4E-06	4.5E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.1E-02	1.6E-02	3.0E-03	0.030
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.2E-03	4.6E-03	5.8E-04	7.4E-03
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>1.30%</b>	<b>0.041</b>	<b>0.105</b>	<b>0.011</b>	<b>0.157</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**  
**Load-Out, Silo Filling, and Yard Emissions**

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

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 =	1,320,000	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	0.34	0.39	NA	<b>0.73</b>
Organic PM	3.4E-04	2.5E-04	NA	0.23	0.168	NA	<b>0.39</b>
TOC	0.004	0.012	0.001	2.74	8.04	0.726	<b>11.5</b>
CO	0.001	0.001	3.5E-04	0.89	0.779	0.232	<b>1.90</b>

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

<b>PM/HAPs</b>	<b>0.016</b>	<b>0.019</b>	<b>0</b>	<b>0.035</b>
<b>VOC/HAPs</b>	<b>0.041</b>	<b>0.102</b>	<b>0.011</b>	<b>0.154</b>
<b>non-VOC/HAPs</b>	<b>2.1E-04</b>	<b>2.2E-05</b>	<b>5.6E-05</b>	<b>2.9E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.20</b>	<b>0.11</b>	<b>0.05</b>	<b>0.37</b>

<b>Total VOCs</b>	<b>2.58</b>	<b>8.04</b>	<b>0.7</b>	<b>11.3</b>
<b>Total HAPs</b>	<b>0.06</b>	<b>0.12</b>	<b>0.011</b>	<b>0.19</b>
<b>Worst Single HAP</b>				<b>0.059</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)::

$$\text{Total PM/PM10 Ef} = 0.000181 + 0.00141(-V)e^{(0.0251)(T+460)-20.43}$$

$$\text{Organic PM Ef} = 0.00141(-V)e^{(0.0251)(T+460)-20.43}$$

$$\text{TOC Ef} = 0.0172(-V)e^{(0.0251)(T+460)-20.43}$$

$$\text{CO Ef} = 0.00558(-V)e^{(0.0251)(T+460)-20.43}$$

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

$$\text{PM/PM10 Ef} = 0.000332 + 0.00105(-V)e^{(0.0251)(T+460)-20.43}$$

$$\text{Organic PM Ef} = 0.00105(-V)e^{(0.0251)(T+460)-20.43}$$

$$\text{TOC Ef} = 0.0504(-V)e^{(0.0251)(T+460)-20.43}$$

$$\text{CO Ef} = 0.00488(-V)e^{(0.0251)(T+460)-20.43}$$

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

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

**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 $\leq 100$ $\mu\text{m}$ )
$k$ (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter $\leq 10$ $\mu\text{m}$ )
$U$ =	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 =	1,320,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,254,000	tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)
Truck unloading of materials into storage piles	1.42	0.67
Front-end loader dumping of materials into feeder bins	1.42	0.67
Conveyor dropping material into dryer/mixer or batch tower	1.42	0.67
<b>Total (tons/yr)</b>	<b>4.26</b>	<b>2.02</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)*	Unlimited/Unc onrolled PTE of PM (tons/yr)	Unlimited/Unc onrolled PTE of PM10 (tons/yr)
Crushing	0.0054	0.0024	0.00	0.00
Screening	0.025	0.0087	0.00	0.00
Conveying** (stone + RAP)	0.003	0.0011	2.80	1.03
<b>Limited Potential to Emit (tons/yr) =</b>			<b>2.80</b>	<b>1.03</b>

**NOTE: Source reports there are no stone crushing or stone screening operations at this site.**

**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 stone/gravel, slag, and recycled asphalt pavement (RAP)

Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2

\*Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).

\*\*Maximum Material Handling Throughput = 70 tons RAP/hr 613,200 tons RAP/yr

**Abbreviations**

PM = Particulate Matter

PM10 = Particulate Matter (<10  $\mu\text{m}$ )

PTE = Potential to Emit

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

**Company Name:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

**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 =	1,320,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,254,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	66,000	tons/yr
No. 2 Fuel Oil Limitation =	2,325,000	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	5.6E+04	2.2E+06	300	0.057	3180.8
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	5.6E+04	9.5E+05	300	0.057	3180.8
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.8E+03	8.8E+04	300	0.057	104.2
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.8E+03	2.2E+04	300	0.057	104.2
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.5E+02	1.1E+04	300	0.057	14.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.5E+02	2.9E+03	300	0.057	14.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	3.0E+05	5.7E+06	300	0.057	16964.3
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	3.0E+05	4.5E+06	300	0.057	16964.3
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	5.5E+04	2.3E+06	300	0.057	3125.0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	5.5E+04	9.4E+05	300	0.057	3125.0
<b>Total</b>						<b>8.2E+05</b>	<b>1.7E+07</b>		<b>4.7E+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)	9.69	2.47	6.37	1.62	3.19	0.81
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	9.69	2.47	6.37	1.62	3.19	0.81
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.317	0.081	0.209	0.053	0.104	0.027
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.317	0.081	0.209	0.053	0.104	0.027
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.043	0.011	0.028	0.007	0.014	0.004
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.043	0.011	0.028	0.007	0.014	0.004
Aggregate/RAP Loader Full	Front-end loader (3 CY)	51.70	13.18	33.99	8.66	17.00	4.33
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	51.70	13.18	33.99	8.66	17.00	4.33
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	9.52	2.43	6.26	1.60	3.13	0.80
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	9.52	2.43	6.26	1.60	3.13	0.80
<b>Totals</b>		<b>142.55</b>	<b>36.33</b>	<b>93.73</b>	<b>23.89</b>	<b>46.86</b>	<b>11.94</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:** Milestone Contractors, L.P.  
**Source Address:** 9790 Old State Road 37 North, Martinsville, Indiana 46151  
**Permit Number:** 109-25533-03229  
**Reviewer:** Sandra Carr  
**Date:** February 5, 2008

**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 =	1,320,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,254,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	66,000	tons/yr
No. 2 Fuel Oil Limitation =	2,325,000	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	5.6E+04	2.2E+06	300	0.057	3180.8
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	5.6E+04	9.5E+05	300	0.057	3180.8
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.8E+03	8.8E+04	300	0.057	104.2
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.8E+03	2.2E+04	300	0.057	104.2
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.5E+02	1.1E+04	300	0.057	14.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.5E+02	2.9E+03	300	0.057	14.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	3.0E+05	5.7E+06	300	0.057	16964.3
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	3.0E+05	4.5E+06	300	0.057	16964.3
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	5.5E+04	2.3E+06	300	0.057	3125.0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	5.5E+04	9.4E+05	300	0.057	3125.0
<b>Total</b>						<b>8.2E+05</b>	<b>1.7E+07</b>		<b>4.7E+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 months)

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)	1.05	0.20	0.96	0.19	0.48	0.09
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	1.05	0.20	0.96	0.19	0.48	0.09
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.034	0.007	0.031	0.006	0.016	3.0E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.034	0.007	0.031	0.006	0.016	3.0E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	4.6E-03	8.9E-04	4.2E-03	8.2E-04	2.1E-03	4.1E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	4.6E-03	8.9E-04	4.2E-03	8.2E-04	2.1E-03	4.1E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	5.58	1.09	5.10	0.99	2.55	0.50
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	5.58	1.09	5.10	0.99	2.55	0.50
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	1.03	0.20	0.94	0.18	0.47	0.09
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	1.03	0.20	0.94	0.18	0.47	0.09
<b>Totals</b>		<b>15.38</b>	<b>2.99</b>	<b>14.07</b>	<b>2.74</b>	<b>7.03</b>	<b>1.37</b>

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

**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)

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

**Company Name: Milestone Contractors, L.P.**

**Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151**

**Permit Number: 109-25533-03229**

**Reviewer: Sandra Carr**

**Date: February 5, 2008**

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 = 50 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%	52.6	50.0
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	71.4	50.0
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	200.0	50.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	107.8	50.0
Other asphalt with solvent binder	25.9%	2.5%	2000.0	50.0
<b>Worst Case Limited PTE of VOC =</b>				<b>50.0</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>13.04</b>	
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>4.50</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

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

Company Name: Milestone Contractors, L.P.  
Source Address: 9790 Old State Road 37 North, Martinsville, Indiana 46151  
SPR Permit Number: 109-25533-03229  
Reviewer: Sandra Carr  
Date: February 5, 2008

**\*Note: these equivalencies are related back to the Waste Oil (assumed to be the predominant fuel used at this source).**

Fuel Type	SO <sub>2</sub> Equivalency						NO <sub>x</sub> Equivalency			
	Limited Sulfur Content	Limited Sulfur Content Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units
Natural Gas	NA	NA	0.6	lb/MMCF	183.750	MMCF natural gas / 1000 gal waste oil	100	lb/MMCF	0.190	MMCF natural gas / 1000 gal waste oil
No. 2 Fuel Oil	0.50	% by weight	71.00	lb/kgal	1.553	gal No. 2 fuel oil / gal waste oil	20.0	lb/kgal	0.950	gal No. 2 fuel oil / gal waste oil
<b>Waste Oil</b>	<b>0.75</b>	<b>% by weight</b>	<b>110.25</b>	<b>lb/kgal</b>	<b>1.00</b>	<b>gal waste oil / gal waste oil</b>	<b>19.0</b>	<b>lb/kgal</b>	<b>1.00</b>	<b>gal waste oil / gal waste oil</b>

**Methodology**

Fuel Equivalency = [AP-42 Emission Factor for waste oil (lb/kgal)] / [AP-42 Emission Factor for any fuel type (lb/kgal or lb/MMCF)]

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas (boiler < 100 MMBtu/hr): AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1 and 1.4-2

No. 2, No.4, and residual fuel oil (industrial boiler < 100 MMBtu/hr): AP-42 Chapter 1.3 (dated 9/98), Table 1.3-1

Propane and Butane (industrial boiler 10 to 100 MMBtu/hr): AP-42 Chapter 1.5 (dated 10/96), Table 1.5-1

Waste Oil (small boiler): AP-42 Chapter 1.11 (dated 10/96), Table 1.11-2

Diesel Engine Oil: AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1

**Fuel Equivalency (Based on NO<sub>x</sub> Emissions)**

Natural Gas NO <sub>x</sub> Emission Factor =	100	lb/MMCF
Waste Oil NO <sub>x</sub> Emission Factor =	19.0	lb/kgal
Natural Gas to Waste Oil Equivalency =	0.19	MMCF Nat Gas / 1000 gal Waste Oil

**Fuel Equivalency (Based on SO<sub>2</sub> Emissions)**

Natural Gas SO <sub>2</sub> Emission Factor =	0.6	lb/MMCF
Waste Oil SO <sub>2</sub> Emission Factor =	110.25	lb/kgal at 0.75% sulfur content
Waste Oil to Natural Gas Equivalency =	5.44	gal Waste Oil / MMCF of Nat Gas