



# 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: August 10, 2010

RE: Dave O'Mara Contractor, Inc. / 079-27815-05269

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

## Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures  
FNPER.dot12/03/07



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**Federally Enforceable State Operating Permit  
Renewal  
OFFICE OF AIR QUALITY**

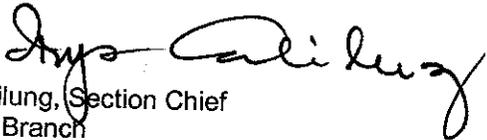
**Dave O'Mara Contractor, Inc. - Plant #8  
610 Base Road  
Hayden, Indiana 47245**

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

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

Operation Permit No.: F079-27815-05269	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 10, 2010 Expiration Date: August 10, 2020

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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)]

---

The Permittee owns and operates a stationary drum hot-mix asphalt plant, and a cold-mix asphalt manufacturing operation. This source processes steel slag and recycled shingles in its aggregate mix.

Source Address:	610 Base Road, Hayden, Indiana 47245
General Source Phone Number:	812-346-4135
SIC Code:	2951
County Location:	Jennings
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

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

- (a) One (1) stationary drum hot-mix asphalt dryer/mixer, constructed in 2005, with a nominal capacity of three hundred seventy-five (375) tons per hour throughput of raw material, processing steel slag and recycled shingles (certified asbestos free - factory seconds and/or post consumer waste, only) in the aggregate mix, equipped with one (1) ninety-six and eight tenths (96.8) million British thermal units per hour (MMBtu/hr) No. 4 residual fuel oil fired burner, using No. 2 distillate fuel oil as a back up fuel, controlling particulate emissions with one (1) single compartment baghouse, and exhausting to one (1) stack, identified as EP1. No grinding of shingles occurs at this source.
- (b) Material processing, handling, screening, and conveying operations, constructed in 2005, uncontrolled and exhausting to the atmosphere, and consisting of the following:
  - (1) Aggregate storage piles consisting of gravel, recycled asphalt pavement, steel slag and shingles (factory seconds and/or post consumer waste);
    - (A) RAP storage piles, with a maximum anticipated pile size of fifty hundredths (0.50) acres;
    - (B) Gravel storage piles, with a maximum anticipated pile size of fifty hundredths (0.50) acres;
    - (C) Steel slag storage piles, with a maximum anticipated pile size of twenty-five hundredths (0.25) acres; and
    - (D) Shingles (certified asbestos free - factory seconds and/or post consumer waste) storage piles, with a maximum anticipated pile size of two (2.00) acres.

- (2) Two (2) aggregate conveyors;
  - (3) One (1) recycled asphalt conveyor;
  - (4) One (1) aggregate scalping screen;
  - (5) One (1) RAP screen;
  - (6) Five (5) aggregate cold feed bins; and
  - (7) One (1) RAP feeder bin.
- (c) Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles.

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

This stationary source also includes the following insignificant activities:

- (a) One (1) liquid asphalt cement hot oil heating system, constructed in 2005, including one (1) No. 2 distillate fuel oil fired hot oil heater, with a nominal rated heat input capacity of one and fifteen hundredths (1.15) MMBtu/hr, using natural gas as back up fuel, and exhausting to one (1) stack, identified as EP2; [326 IAC 6-2]
- (b) One (1) 20,000 gallon liquid asphalt storage tank, installed in 2005;
- (c) One (1) 15,000 gallon liquid asphalt storage tank, installed in 2005;
- (d) One (1) 15,000 gallon No. 4 residual fuel oil storage tank, installed in 2005;
- (e) One (1) 10,000 gallon No. 2 distillate fuel oil storage tank, installed in 2005;
- (f) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment; and
- (g) Paved roads and parking lots with public access. [326 IAC 6-5]

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

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, F079-27815-05269, 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] [IC 13-17-12]**

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)]**

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)]**

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. 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(a)(1)]

- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:
- (1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
  - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent, 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 and Enforcement 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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) 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) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

- (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.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

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

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

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

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

(c) 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.

The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (d) 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]**

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

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,  
Compliance and Enforcement Branch), or  
Telephone Number: 317-233-0178 (ask for Office of Air Quality,  
Compliance and Enforcement Branch)  
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 and Enforcement 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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) 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.

**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 F079-27815-05269 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 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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) 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.16 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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) 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  
Permit Administration and Support Section, 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, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (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  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251
- Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) 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.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:
  - (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
  - (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
  - (3) The changes do not result in emissions, which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
  - (4) The Permittee notifies the:

Indiana Department of Environmental Management  
Permit Administration and Support Section, 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.19 Source Modification Requirement [326 IAC 2-8-11.1]

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

B.20 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]

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.21 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  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) 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.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days after 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.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

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

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

(a) Pursuant to 326 IAC 2-8:

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

(b) Pursuant to 326 IAC 2-2 (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 that the source's potential to emit does not exceed the above specified limits.

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

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

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 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]

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]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

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

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]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan as in Attachment A.

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

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]

- (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 demolitions 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  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 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 that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

#### **C.10 Performance Testing [326 IAC 3-6]**

- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, 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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

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

#### **C.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, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

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

The notification, which shall be submitted by the Permittee, does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

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

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

- (a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

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

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

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

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to 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 excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned or are returning 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 normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records; and/or
  - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

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

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) 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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

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

- (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 except that 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. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.
- (b) The address for report submittal is:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, 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) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31, inclusive.

### **Stratospheric Ozone Protection**

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

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

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

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

- (a) One (1) stationary drum hot-mix asphalt dryer/mixer, constructed in 2005, with a nominal capacity of three hundred seventy-five (375) tons per hour throughput of raw material, processing steel slag and recycled shingles (certified asbestos free - factory seconds and/or post consumer waste, only) in the aggregate mix, equipped with one (1) ninety-six and eight tenths (96.8) million British thermal units per hour (MMBtu/hr) No. 4 residual fuel oil fired burner, using No. 2 distillate fuel oil as a back up fuel, controlling particulate emissions with one (1) single compartment baghouse, and exhausting to one (1) stack, identified as EP1. No grinding of shingles occurs at this source.
- (b) Material processing, handling, screening, and conveying operations, constructed in 2005, uncontrolled and exhausting to the atmosphere, and consisting of the following:
- (1) Aggregate storage piles consisting of gravel, recycled asphalt pavement, steel slag and shingles (factory seconds and/or post consumer waste);
    - (A) RAP storage piles, with a maximum anticipated pile size of fifty hundredths (0.50) acres;
    - (B) Gravel storage piles, with a maximum anticipated pile size of fifty hundredths (0.50) acres;
    - (C) Steel slag storage piles, with a maximum anticipated pile size of twenty-five hundredths (0.25) acres; and
    - (D) Shingles (certified asbestos free - factory seconds and/or post consumer waste) storage piles, with a maximum anticipated pile size of two (2.00) acres.
  - (2) Two (2) aggregate conveyors;
  - (3) One (1) recycled asphalt conveyor;
  - (4) One (1) aggregate scalping screen;
  - (5) One (1) RAP screen;
  - (6) Five (5) aggregate cold feed bins; and
  - (7) One (1) RAP feeder bin.

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

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

#### **D.1.1 PSD Limits [326 IAC 2-2]**

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

- (a) The annual hot-mix asphalt dryer/mixer throughput shall not exceed 750,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) PM emissions from the hot-mix asphalt dryer/mixer shall not exceed five hundred thousandths (0.500) pounds per ton of asphalt processed.

Compliance with these limits, combined with the limited 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 two hundred fifty (250) tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.2 FESOP Limits [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 8-1-6]

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

- (a) The annual hot-mix asphalt dryer/mixer throughput shall not exceed 750,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) PM10 emissions from the hot-mix asphalt dryer/mixer shall not exceed two hundred thousandths (0.200) pounds per ton of asphalt produced.
- (c) PM2.5 emissions from the hot-mix asphalt dryer/mixer shall not exceed two hundred thousandths (0.200) pounds per ton of asphalt produced.
- (d) VOC emissions from the hot-mix asphalt dryer/mixer shall not exceed sixty-four thousandths (0.064) pounds of VOC per ton of asphalt produced.
- (e) CO emissions from the hot-mix asphalt dryer/mixer shall not exceed two hundred twenty-one thousandths (0.221) pounds per ton of asphalt produced.

Compliance with these limits, combined with the limited potential to emit PM10, PM2.5, VOC, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, VOC, and CO to less than one hundred (100) tons per twelve (12) consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

In addition, compliance with these limits shall limit the VOC emissions from the hot-mix asphalt dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

D.1.3 Sulfur Dioxide (SO<sub>2</sub>) Limitations [326 IAC 2-8-4] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to limit the SO<sub>2</sub> emissions from the hot-mix asphalt dryer/mixer, the Permittee shall comply with the following:

- (a) Slag and Fuel Specifications:
  - (1) The calendar-month average sulfur content of the steel slag shall not exceed sixty-six hundredths percent (0.66%) by weight with compliance determined at the end of each month;
  - (2) SO<sub>2</sub> emissions from the steel slag used in the hot-mix asphalt dryer/mixer shall not exceed fifty thousandths (0.050) pounds of SO<sub>2</sub> per ton of steel slag processed;
  - (3) The calendar-month average sulfur content of the No. 2 distillate fuel oil shall not exceed five-tenths percent (0.5%) by weight with compliance determined at the end of each month; and
  - (4) The calendar-month average sulfur content of the No. 4 residual fuel oil shall not exceed one and six tenths percent (1.6%) by weight with compliance determined at the end of each month.

- (b) Slag Usage Limitation:  
The amount of steel slag used in the production of hot-mix asphalt shall not exceed 75,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) Single Fuel Usage Limitations:  
When combusting only one type of fuel per twelve (12) consecutive month period in the hot-mix asphalt dryer/mixer burner, the usage of fuel shall be limited as follows:
- (1) No. 4 residual fuel oil usage shall not exceed 760,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month,
  - (2) No. 2 distillate fuel oil usage shall not exceed 2,608,500 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month,
- (d) Multiple Fuel & Slag Usage Limitation:  
When combusting more than one fuel per twelve (12) consecutive month period in the hot-mix asphalt dryer/mixer burner, in conjunction with the use of steel slag in the aggregate mix, emissions from the hot-mix asphalt dryer/mixer shall be limited as follows:
- (1) Sulfur dioxide (SO<sub>2</sub>) emissions from the hot-mix asphalt dryer/mixer shall be less than ninety-four (94.0) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the limited potential emissions from all other emission units at this source, shall limit the source-wide total potential to emit SO<sub>2</sub> to less than one hundred (100) tons per twelve (12) consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) not applicable.

D.1.4 Sulfur Dioxide (SO<sub>2</sub>) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), the Permittee shall comply with the following:

- (a) The sulfur dioxide (SO<sub>2</sub>) emissions from the hot-mix asphalt dryer/mixer burner shall not exceed five tenths (0.5) pounds per million Btu heat input when using distillate oil. Note: the No. 2 distillate fuel oil is distillate oil.
- (b) The sulfur dioxide (SO<sub>2</sub>) emissions from the hot-mix asphalt dryer/mixer burner shall not exceed one and six tenths (1.6) pounds per million Btu heat input when using residual oil. Note: the No. 4 residual fuel oil is residual oil.
- (c) Pursuant to 326 IAC 7-2-1, compliance shall be determined on a calendar month average.

D.1.5 Hazardous Air Pollutants (HAPs) [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to limit HAP emissions from the hot-mix asphalt dryer/mixer, the Permittee shall comply with the following:

- (a) The Permittee shall use only certified asbestos-free factory seconds and/or post consumer waste shingles as an additive in its aggregate mix.

Compliance with these limits, combined with the limited PTE from all other emission units at this source, shall limit the source-wide total potential to emit any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and any combination of HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (PSD), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

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

A Preventive Maintenance Plan is required for these facilities and their associated control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

**Compliance Determination Requirements**

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

In order to demonstrate compliance with the Conditions D.1.1(b) - PSD Limits, D.1.2(b) - FESOP Limits, and D.1.2(c) - FESOP Limits, the Permittee shall perform the following:

- (a) In order to demonstrate compliance with Condition D.1.1(b) - PSD Limits, no later than five (5) years from the most recent valid compliance demonstration, the Permittee shall perform PM testing on the exhaust from the single compartment baghouse controlling the hot-mix asphalt dryer/mixer, utilizing methods as approved by the Commissioner.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

- (b) In order to demonstrate compliance with Conditions D.1.2(b) - FESOP Limits, and D.1.2(c) - FESOP Limits, the Permittee shall perform PM2.5 and PM10 testing on the exhaust from the single compartment baghouse controlling hot-mix asphalt dryer/mixer, no later than 180 days after final promulgation of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than Two and Five Tenths (2.5) Micrometers (PM2.5), signed on May 8th, 2008, or no later than five (5) years from the most recent valid compliance demonstration, whichever is later. This testing shall be conducted utilizing methods as approved by the Commissioner.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5, each, includes filterable and condensable PM.

D.1.8 Particulate Matter (PM, PM10, and PM2.5) Control

In order to comply with Conditions D.1.1(b) - PSD Limits, D.1.2(b) - FESOP Limits, and D.1.2(c) - FESOP Limits, the single compartment baghouse for particulate control shall be in operation and control emissions from the hot-mix asphalt dryer/mixer, at all times when the hot-mix asphalt dryer/mixer is in operation.

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

- (a) Compliance with the slag limitations established in Conditions D.1.3(a) - Slag and Fuel Specifications and D.1.3(b) - Slag Usage Limitation shall be determined utilizing one of the following options.

- (1) Providing vendor analysis of the steel slag delivered, if accompanied by a vendor certification; or
- (2) Analyzing a sample of the slag delivery to determine the sulfur content of the steel slag, 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.

- (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the one hundred twenty (120) million British thermal units per hour burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified above shall not be refuted by evidence of compliance pursuant to the other method.

- (b) Compliance with the fuel limitations established in Conditions D.1.3(a) - Slag and Fuel Specifications, D.1.4(a) - Sulfur Dioxide (SO<sub>2</sub>), and D.1.4(b) - Sulfur Dioxide (SO<sub>2</sub>), shall be determined utilizing one of the following options.

- (1) Providing vendor analysis of heat content and sulfur content of the fuel delivered, if accompanied by a vendor certification; or
- (2) Analyzing the fuel sample to determine the sulfur content of the fuel via the procedures in 40 CFR 60, Appendix A, Method 19.
- (A) Fuel samples may be collected from the fuel tank immediately after the fuel tank is filled and before any fuel is combusted; and
- (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the one hundred twenty (120) million British thermal units per hour burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified above shall not be refuted by evidence of compliance pursuant to the other method.

#### D.1.10 Multiple Fuel & Slag Usage / Sulfur Dioxide (SO<sub>2</sub>) Emissions

- (a) In order to determine compliance with Condition D.1.3(d) - Sulfur Dioxide (SO<sub>2</sub>) Limitations, when combusting more than one fuel in the hot-mix asphalt dryer/mixer, in conjunction with the use of steel slag in the aggregate mix, the Permittee shall use the following equation to determine SO<sub>2</sub> emitted:

- (1) Sulfur Dioxide emission calculation

$$S = \frac{F(E_F) + R(E_R) + L(E_L) + N(E_N)}{2,000 \text{ lbs/ton}}$$

where: S = tons of sulfur dioxide emissions for twelve (12) month consecutive period

F = gallons of No. 2 distillate fuel oil used in last twelve (12) months

R = gallons of No. 4 residual fuel oil used in last twelve (12) months

L = tons of steel slag used in last twelve (12) months

N = million cubic feet of natural gas used in last twelve (12) months

#### Emission Factors for Sulfur Dioxide

E<sub>F</sub> = seventy-one (71.0) pounds per one thousand (1000) gallons of No. 2 distillate fuel oil

E<sub>R</sub> = two hundred forty (240) pounds per one thousand (1000) gallons of No. 4 residual fuel oil

$E_L$  = fifty thousandths (0.050) pounds per ton of steel slag processed.

$E_N$  = six tenths (0.6) pounds per one million (1,000,000) cubic feet of natural gas

#### D.1.11 Shingle Asbestos Content

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Pursuant to 326 IAC 2-8-4, compliance with Condition D.1.6 - Hazardous Air Pollutants (HAPs) shall be determined utilizing one or more of the following options:

- (a) For factory seconds shingles:
  - (1) Providing shingle supplier certification that the factory seconds shingles do not contain asbestos;
- (b) For post consumer waste shingles:
  - (1) Providing shingle supplier certification that each load of post consumer waste shingles do not contain asbestos.

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

#### D.1.12 Visible Emissions Notations

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- (a) Visible emission notations of the conveyors, screens, material transfer points, and hot-mix asphalt dryer/ mixer stack (EP1) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, at least 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. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

#### D.1.13 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

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- (a) The Permittee shall record the pressure drop across the single compartment baghouse used in conjunction with the hot-mix asphalt dryer/mixer at least once per day when the hot-mix asphalt dryer/mixer is in operation. When for any one reading, the pressure drop across the single compartment baghouse is outside the normal range of two (2.0) and eight (8.0) inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

- (b) The instruments used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months, or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer specifications, if used.

#### 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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

#### D.1.15 Record Keeping Requirements [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-3][326 IAC 7-1.1-2][326 IAC 7-2-1]

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- (a) To document the compliance status with Conditions D.1.1(a) - PSD Limits and D.1.2(a) - FESOP Limits, the Permittee shall maintain records of the amount of asphalt produced per month. Records necessary to demonstrate compliance shall be available no later than thirty (30) days after the end of each compliance period.
- (b) To document compliance status with the slag limitations in Conditions D.1.3(a) - Slag and Fuel Specifications and D.1.3(b) - Slag Usage Limitation, the Permittee shall maintain monthly records of the information listed in items (1) through (4) below.
  - (1) Calendar dates covered in the compliance determination period;
  - (2) Actual steel slag usage, calendar-month average sulfur content and equivalent sulfur dioxide emission rates for all steel slag used at the source since the last compliance determination period;
  - (3) A certification, signed by the owner or operator, that the records of the slag supplier certifications represent all of the steel slag used during the period; and
  - (4) If the slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
    - (A) Slag supplier certifications;
    - (B) The name of the slag supplier; and
    - (C) A statement from the slag supplier that certifies the sulfur content of the steel slag.

Records that may be used to document the information included in (1) through (4) may include delivery tickets, manufacturer's data, material safety data sheets (MSDS), and other documents necessary to verify the type and amount used.

- (c) To document the compliance status with the fuel limitations in Conditions D.1.3(a)(3) - Slag and Fuel Specifications, D.1.3(a)(4) - Slag and Fuel Specifications, D.1.3(c) - Single Fuel Usage Limitations, D.1.4(a) - Sulfur Dioxide (SO<sub>2</sub>), and D.1.4(b) - Sulfur Dioxide (SO<sub>2</sub>), the Permittee shall maintain monthly records of the information listed in items (1) through (4) below.
- (1) Calendar dates covered in the compliance determination period;
  - (2) Actual fuel usage, calendar-month average sulfur content, calendar-month average heat content and equivalent sulfur dioxide emission rates for each fuel used at the source since the last compliance determination period;
  - (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and
  - (4) If the fuel supplier certification is used to demonstrate compliance, the following, as a minimum, shall be maintained:
    - (A) Fuel supplier certifications;
    - (B) The name of the fuel supplier; and
    - (C) A statement from the fuel supplier that certifies the sulfur content of No. 2 and No. 4 residual fuel oils.

Records that may be used to document the information included in (1) through (4) may include delivery tickets, manufacturer's data, material safety data sheets (MSDS), and other documents necessary to verify the type and amount used.

- (d) To document the compliance status with Condition D.1.3(d) - Multiple Fuel & Slag Usage Limitation when combusting more than one fuel per twelve (12) consecutive month period in the hot-mix asphalt dryer/mixer burner, in conjunction with the use of steel slag in the aggregate mix, the Permittee shall maintain records of actual fuel usage, actual slag usage, and equivalent sulfur dioxide emission rates for each fuel and the slag used at the source per month.
- (e) To document compliance with Conditions D.1.5 - Hazardous Air Pollutants (HAPs) and D.1.11 - Shingle Asbestos Content, the Permittee shall maintain records of the information listed in items (1) through (3) below. Records that may be used to document the information included in (1) through (3) for factory seconds shingles shall be obtained each time shingles are received from a new supplier, and records that may be used to document the information included in (1) through (3) for post consumer waste shingles shall be obtained each time a new load of shingles is received from any supplier.
- (1) Calendar dates covered in the compliance determination period;
  - (2) A certification, signed by the owner or operator, that the records of the shingle supplier certifications represent all of the shingles used during the period; and
  - (3) If the shingle supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

- (A) Shingle supplier certifications;
  - (B) The name of the shingle supplier(s); and
  - (C) A statement from the shingle supplier(s) that certifies the asbestos content of the shingles from their company.
- (f) To document the compliance status with Condition D.1.12 - Visible Emissions Notations, the Permittee shall maintain daily records of the visible emission notations from each of the conveyors, screens, material transfer points, and hot-mix asphalt dryer/mixer stack (EP1) exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the plant did not operate that day).
- (g) To document the compliance status with Condition D.1.13 - Baghouse Parametric Monitoring, the Permittee shall maintain daily records of the pressure drop across the single compartment baghouse controlling the hot-mix asphalt dryer/mixer. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g., the hot-mix asphalt dryer/mixer did not operate that day).
- (h) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

#### D.1.16 Reporting Requirements

A quarterly summary of the information to document compliance status with Conditions D.1.1(a) - PSD Limits, D.1.2(a) - FESOP Limits, D.1.3(b) - Slag Usage Limitation, D.1.3(c) - Single Fuel Usage Limitations, and D.1.3(d) - Multiple Fuel & Slag Usage Limitation, shall be submitted using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification, that meets the requirements of 326 IAC 2-8-5(a)(1), by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

## SECTION D.2

## FACILITY OPERATION CONDITIONS

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

- (c) Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles.

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

Pursuant to 326 IAC 2-8-4, the VOC emissions from the use of liquid binders, containing VOC solvents as diluents, in the cold-mix asphalt manufacturing operations and storage piles shall not exceed sixty-eight (68.00) tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This shall be achieved by limiting the total VOC solvent usage in of any one of the selected binders as follows:

- (a) Cut back asphalt rapid cure, containing a maximum of twenty-five and three tenths percent (25.3%) of the liquid binder by weight of VOC solvent and ninety-five percent (95.0%) by weight of VOC solvent evaporating.

Cutback asphalt rapid cure liquid binder usage shall not exceed seventy-one and fifty-eight hundredths (71.58) tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (b) Cut back asphalt medium cure, containing a maximum of twenty-eight and six tenths percent (28.6%) of the liquid binder by weight of VOC solvent and seventy percent (70.0%) by weight of VOC solvent evaporating.

Cutback asphalt medium cure liquid binder usage shall not exceed ninety-seven and fourteen hundredths (97.14) tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (c) Cut back asphalt slow cure, containing a maximum of twenty percent (20.0%) of the liquid binder by weight of VOC solvent and twenty-five percent (25.0%) by weight of VOC solvent evaporating.

Cutback asphalt slow cure liquid binder usage shall not exceed two hundred and seventy-two hundredths (272.00) tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (d) Emulsified asphalt with solvent, containing a maximum of fifteen percent (15.0%) of liquid binder by weight of VOC solvent and forty-six and four tenths percent (46.4%) by weight of the VOC solvent in the liquid blend evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be 7% or less of the total emulsion by volume

Emulsified asphalt with solvent liquid binder usage shall not exceed one hundred forty-six and fifty-five hundredths (146.55) tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (e) Other asphalt with solvent binder, containing a maximum of twenty-five and nine tenths percent (25.9%) of the liquid binder by weight of VOC solvent and two and five tenths percent (2.5%) by weight of the VOC solvent evaporating.

Other asphalt with solvent liquid binder shall not exceed two thousand seven hundred twenty (2,720.00) tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (f) The VOC solvent allotments in (a) through (e) above shall be adjusted when more than one type of binder is used per twelve (12) consecutive month period, with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment factor listed in the table that follows.

$$\text{VOC Emitted (tons/day)} = \frac{\text{VOC solvent used for each binder (tons/day)}}{\text{Adjustment factor}}$$

Type of Binder	Adjustment Factor
Cutback Asphalt Rapid Cure	1.053
Cutback Asphalt Medium Cure	1.429
Cutback Asphalt Slow Cure	4.000
Emulsified Asphalt	2.155
Other Asphalt	40.0

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

#### D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]

Pursuant to 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving), the use of cutback asphalt or asphalt emulsion shall not contain 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.

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

##### D.2.3 Record Keeping Requirements

To document the compliance status with Condition D.2.1 - Volatile Organic Compounds (VOC), the Permittee shall maintain monthly records of the information listed in items (a) through (d) below.

- (a) Calendar dates covered in the compliance determination period;
- (b) Liquid asphalt binder usage per month since the last compliance determination period;
- (c) VOC solvent content by weight of the liquid asphalt binder used since the last compliance determination period; and

- (d) Amount of VOC solvent used in the production of cold-mix asphalt, and the amount of VOC emitted since the last compliance determination period.

Records that may be used to document the information included in (a) through (d) may include delivery tickets, manufacturer's data, material safety data sheets (MSDS), and other documents necessary to verify the type and amount used. Test results of ASTM tests for asphalt cutback and asphalt emulsion may be used to document volatilization.

Section C - General Record Keeping Requirements of this permit contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

#### D.2.4 Reporting Requirements

A quarterly summary of the information to document compliance status with Condition D.2.1 - Volatile Organic Compounds (VOC) shall be submitted using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification, that meets the requirements of 326 IAC 2-8-5(a)(1), by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

### SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

#### **Emissions Unit Description: Insignificant Activities**

- (a) One (1) liquid asphalt cement hot oil heating system, constructed in 2005, including one (1) No. 2 distillate fuel oil fired hot oil heater, with a nominal rated heat input capacity of one and fifteen hundredths (1.15) MMBtu/hr, using natural gas as back up fuel, and exhausting to one (1) stack, identified as EP2; [326 IAC 6-2]

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

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

##### **D.3.1 Particulate Emissions [326 IAC 6-2]**

Pursuant to 326 IAC 6-2-4, the particulate emissions from the hot oil heater shall not exceed six tenths (0.6) pounds of particulate matter per MMBtu heat input.

## SECTION E.1

## NSPS REQUIREMENTS

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

- (a) One (1) stationary drum hot-mix asphalt dryer/mixer, constructed in 2005, with a nominal capacity of three hundred seventy-five (375) tons per hour throughput of raw material, processing steel slag and shingles (certified asbestos free - factory seconds and/or post consumer waste) in the aggregate mix, equipped with one (1) ninety-six and eight tenths (96.8) million British thermal units per hour (MMBtu/hr) No. 4 residual fuel oil fired burner, using No. 2 distillate fuel oil as a back up fuel, controlling particulate emissions with one (1) single compartment baghouse, and exhausting to one (1) stack, identified as EP1. No grinding of shingles occurs at this source.
- (b) Material storage, processing, handling, screening, and conveying operations, constructed in 2005, uncontrolled and exhausting to the atmosphere, and consisting of the following:
- (1) Aggregate storage piles consisting of gravel, recycled asphalt pavement, steel slag and shingles (factory seconds and/or post consumer waste);
    - (A) RAP storage piles, with a maximum anticipated pile size of fifty hundredths (0.50) acres;
    - (B) Gravel storage piles, with a maximum anticipated pile size of fifty hundredths (0.50) acres;
    - (C) Steel slag storage piles, with a maximum anticipated pile size of twenty-five hundredths (0.25) acres; and
    - (D) Shingles (certified asbestos free - factory seconds and/or post consumer waste) storage piles, with a maximum anticipated pile size of two (2.00) acres.
  - (2) Two (2) aggregate conveyors;
  - (3) One (1) recycled asphalt conveyor;
  - (4) One (1) aggregate scalping screen;
  - (5) One (1) RAP screen;
  - (6) Five (5) aggregate cold feed bins; and
  - (7) One (1) RAP feeder bin.

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

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

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

Pursuant to CFR Part 60, Subpart I, the affected facility to which the provisions of this subpart apply is each hot-mix asphalt facility, as defined in § 60.91(a), that commences construction or modification after June 11, 1973. 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.

The hot-mix asphalt facility is subject to the following portions of 40 CFR 60, Subpart I (included as Attachment B of this permit):

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

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH**

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

Source Name: Dave O'Mara Contractor, Inc. - Plant #8  
Source Address: 610 Base Road, Hayden, Indiana 47245  
FESOP Permit No.: F079-27815-05269

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

Please check what document is being certified:

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

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

Signature:

Printed Name:

Title/Position:

Date:

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

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

Source Name: Dave O'Mara Contractor, Inc. - Plant #8  
Source Address: 610 Base Road, Hayden, Indiana 47245  
FESOP Permit No.: F079-27815-05269

**This form consists of 2 pages**

**Page 1 of 2**

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

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

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

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

**Page 2 of 2**

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

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

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

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

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH**

**FESOP Quarterly Report**

Source Name: Dave O'Mara Contractor, Inc. - Plant #8  
Source Address: 610 Base Road, Hayden, Indiana 47245  
FESOP Permit No.: F079-27815-05269  
Facility: Hot-mix asphalt dryer/mixer  
Parameter: Hot-Mix Asphalt Dryer/Mixer Throughput  
Limit: Maximum annual hot-mix asphalt dryer/mixer throughput shall not exceed 750,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

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

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH**

**FESOP Quarterly Report**

Source Name: Dave O'Mara Contractor, Inc. - Plant #8  
Source Address: 610 Base Road, Hayden, Indiana 47245  
FESOP Permit No.: F079-27815-05269  
Facility: Hot-mix asphalt dryer/mixer  
Parameter: Steel Slag Usage  
Limit: When including steel slag, containing less than or equal to sixty-six hundredths percent (0.66%) sulfur by weight, in the aggregate mix, the usage shall not exceed 75,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

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

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

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

**FESOP Quarterly Report**

Source Name: Dave O'Mara Contractor, Inc. - Plant #8  
 Source Address: 610 Base Road, Hayden, Indiana 47245  
 FESOP Permit No.: F079-27815-05269  
 Facility: Hot-mix asphalt dryer/mixer  
 Parameter: Single Fuel Usage  
 Limit: When combusting only one type of fuel in the hot-mix asphalt dryer/mixer burner, the usage of fuel shall be limited as follows:

Fuel Type (units)	Fuel Usage Limit (per 12 consecutive month period)
No. 2 distillate fuel oil ≤ 0.5 wt% sulfur (gallons)	2,608,500
No. 4 residual fuel oil ≤ 1.6 wt% sulfur (gallons)	760,000

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

The following fuel was the only fuel combusted over the previous 12-month period: \_\_\_\_\_

*(combustion of more than one fuel requires the use of the "Multiple Fuel Quarterly Report" form)*

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

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

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

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

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

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

**FESOP Quarterly Report**

Page 1 of 2

Source Name: Dave O'Mara Contractor, Inc. - Plant #8  
Source Address: 610 Base Road, Hayden, Indiana 47245  
FESOP Permit No.: F079-27815-05269  
Facility: Hot-mix asphalt dryer/mixer  
Parameters: Multiple Fuel & Slag Usage / Sulfur Dioxide (SO<sub>2</sub>) Emissions  
Limit: Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed ninety-four (94.0) tons per twelve (12) consecutive month period. When combusting more than one fuel in the hot-mix asphalt dryer/mixer burner, in conjunction with the use of steel slag in the aggregate mix, the Permittee shall limit fuel and steel slag usage according to the following equation:

$$S = \frac{F(E_F) + R(E_R) + L(E_L) + N(E_N)}{2,000 \text{ lbs/ton}}$$

where: S = tons of sulfur dioxide emissions for twelve (12) month consecutive period

F = gallons of No. 2 distillate fuel oil used in last twelve (12) months

R = gallons of No. 4 residual fuel oil used in last twelve (12) months

L = tons of steel slag used in last twelve (12) months

N = million cubic feet of natural gas used in last twelve (12) months

Emission Factors for Sulfur Dioxide

E<sub>F</sub> = seventy-one (71.0) pounds per one thousand (1000) gallons of No. 2 distillate fuel oil

E<sub>R</sub> = two hundred forty (240) pounds per one thousand (1000) gallons of No. 4 residual fuel oil

E<sub>L</sub> = fifty thousandths (0.050) pounds per ton of steel slag processed.

E<sub>N</sub> = six tenths (0.6) pounds per one million (1,000,000) cubic feet of natural gas

**Multiple Fuel Usage**

**FESOP Quarterly Report**

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

Month	Fuel Types / Slag (units)	Column 1	Column 2		Column 1 + Column 2	Equation Results
		Usage This Month	Usage Previous 11 Months		Usage 12 Month Total	SO2 Emissions (tons per 12 months)
Month 1	No. 2 Fuel Oil ≤ 0.5 wt% sulfur (gallons)			F		
	No. 4 Fuel Oil ≤ 1.6 wt% sulfur (gallons)			R		
	Steel slag ≤ 0.66% wt% sulfur (tons)			L		
	Natural Gas (MMCF)			N		
Month 2	No. 2 Fuel Oil ≤ 0.5 wt% sulfur (gallons)			F		
	No. 4 Fuel Oil ≤ 1.6 wt% sulfur (gallons)			R		
	Steel slag ≤ 0.66% wt% sulfur (tons)			L		
	Natural Gas (MMCF)			N		
Month 3	No. 2 Fuel Oil ≤ 0.5 wt% sulfur (gallons)			F		
	No. 4 Fuel Oil ≤ 1.6 wt% sulfur (gallons)			R		
	Steel slag ≤ 0.66% wt% sulfur (tons)			L		
	Natural Gas (MMCF)			N		

No deviation occurred in this reporting period.

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

Deviation/s occurred in this reporting period.

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

Deviation has been reported on: \_\_\_\_\_

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

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

**FESOP Quarterly Report**

Source Name: Dave O'Mara Contractor, Inc. - Plant #8  
 Source Address: 610 Base Road, Hayden, Indiana 47245  
 FESOP Permit No.: F079-27815-05269  
 Facility: Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles  
 Parameter: Single Liquid Binder Solvent Usage / VOC Emissions  
 Limit: Volatile Organic Compound (VOC) emissions from the use of liquid binders, containing VOC solvents as diluents, in the cold-mix asphalt manufacturing operations and storage piles shall not exceed sixty-eight (68.00) tons per twelve (12) consecutive month period. When using only one type of binder, the total VOC solvent usage shall be limited as follows:

Type of Binder	Binder VOC Usage Limits (tons per 12 consecutive month period)
Cutback Asphalt Rapid Cure	71.58
Cutback Asphalt Medium Cure	97.14
Cutback Asphalt Slow Cure	272.00
Emulsified Asphalt	146.55
Other Asphalt	2,720.00

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

The following liquid binder solvent was the only liquid binder solvent used over the previous twelve (12) month period: \_\_\_\_\_ Limit applicable: \_\_\_\_\_

*(use of more than one binder requires the use of the "Multiple Liquid Binder Solvents" report form)*

Month	Column 1	Column 2	Column 1 + Column 2
	Liquid Binder Usage This Month (tons)	Liquid Binder Usage Previous 11 Months (tons)	Liquid Binder Usage 12 Month Total (tons)
Month 1			
Month 2			
Month 3			

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

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

**FESOP Quarterly Report**

Page 1 of 2

Source Name: Dave O'Mara Contractor, Inc. - Plant #8  
 Source Address: 610 Base Road, Hayden, Indiana 47245  
 FESOP Permit No.: F079-27815-05269  
 Facility: Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles.  
 Parameter: Multiple Liquid Binder Solvent Usage / VOC Emissions  
 Limit: Volatile Organic Compound (VOC) emissions from the use of liquid binders, containing VOC solvents as diluents, in the cold-mix asphalt manufacturing operations and storage piles shall not exceed sixty-eight (68.00) tons per twelve (12) consecutive month period. When using more than one type of binder, the Permittee shall limit VOC solvent usage as follows:

Type of Binder	Binder VOC Usage Limits (tons per 12 consecutive month period)
Cutback Asphalt Rapid Cure	71.58
Cutback Asphalt Medium Cure	97.14
Cutback Asphalt Slow Cure	272.00
Emulsified Asphalt	146.55
Other Asphalt	2,720.00

The tons of VOC emitted per each type of binder, shall be determined using the following equation:

$$\text{VOC Emitted (tons/day)} = \frac{\text{VOC solvent used for each binder (tons/day)}}{\text{Adjustment factor}}$$

Where:

Type of Binder	Adjustment Factor
Cutback Asphalt Rapid Cure	1.053
Cutback Asphalt Medium Cure	1.429
Cutback Asphalt Slow Cure	4.0
Emulsified Asphalt	2.155
Other Asphalt	40.0

**Multiple Liquid Binder Solvent Usage**

**FESOP Quarterly Report**

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

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

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

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

Source Name: Dave O'Mara Contractor, Inc. - Plant #8  
Source Address: 610 Base Road, Hayden, Indiana 47245  
FESOP Permit No.: F079-27815-05269

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

Page 1 of 2

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements of this permit, 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 "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: \_\_\_\_\_

**FEDERALLY ENFORCEABLE  
STATE OPERATING PERMIT RENEWAL  
OFFICE OF AIR QUALITY**

**Dave O'Mara Contractor, Inc.  
610 Base Road,  
Hayden, Indiana 47245**

**Attachment A**

**HOT-MIX ASPHALT PLANT  
FUGITIVE DUST CONTROL PLAN**

**F079-27815-05269**

## HOT-MIX ASPHALT PLANT SITE FUGITIVE DUST CONTROL PLAN

- (a) Fugitive particulate matter emissions from paved roads and parking lots shall be controlled by one or more of the following methods:
  - (1) cleaning by vacuum sweeping on an as needed basis (monthly at a minimum)
  - (2) power brooming while wet either from rain or application of water.
  
- (b) Fugitive particulate matter emissions from unpaved roads and parking lots shall be controlled by one or more of the following methods:
  - (1) paving with asphalt;
  - (2) treating with emulsified asphalt;
  - (3) watering;
  - (4) double chip and seal the road surface.
  
- (c) Fugitive particulate matter emissions from aggregate stockpiles shall be controlled by one or more of the following methods on an as needed basis:
  - (1) maintaining minimum size and number of stock piles of aggregate;
  - (2) treating around the stockpile area with emulsified asphalt;
  - (3) treating around the stockpile area with water;
  - (4) treating the stockpiles with water.
  
- (d) Fugitive particulate matter emissions from outdoor conveying of aggregates shall be controlled by the following method on an as needed basis:
  - (1) applying water at the feed and the intermediate points.
  
- (e) Fugitive particulate matter emissions from the transfer of aggregates shall be controlled by one of the following methods:
  - (1) minimize the vehicular distance between transfer points;
  - (2) enclose the transfer points;
  - (3) apply water on transfer points on an as needed basis.
  
- (f) Fugitive particulate matter emissions from transportation of aggregate by truck, front end loader, etc. shall be controlled by one of the following methods:
  - (1) tarping the aggregate hauling vehicles;
  - (2) maintain vehicle bodies in a condition to prevent leakage;
  - (3) spray the aggregates with water;
  - (4) maintain a 10 MPH speed limit in the yard.
  
- (g) Fugitive particulate matter emissions from the loading and unloading of aggregate shall be controlled by one of the following methods:
  - (1) reduce free fall distance to a minimum;
  - (2) reduce the rate of discharge of the aggregate;
  - (3) spray the aggregate with water on an as needed basis.

**FEDERALLY ENFORCEABLE  
STATE OPERATING PERMIT RENEWAL  
OFFICE OF AIR QUALITY**

**Dave O'Mara Contractor, Inc.  
610 Base Road,  
Hayden, Indiana 47245**

**Attachment B**

**Title 40: Protection of Environment**

**[PART 60—NEW SOURCE PERFORMANCE STANDARDS](#)**

**Subpart I - STANDARDS OF PERFORMANCE  
FOR HOT MIX ASPHALT FACILITIES**

**F079-27815-05269**

## 40 CFR 60, SUBPART I — STANDARDS OF PERFORMANCE FOR HOT MIX ASPHALT FACILITIES

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

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

[42 FR 37936, July 25, 1977, as amended at 51 FR 12325, Apr. 10, 1986]

### § 60.91 Definitions.

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

- (a) *Hot mix asphalt facility* means any facility, as described in §60.90, used to manufacture hot mix asphalt by heating and drying and mixing with asphalt cements.

[51 FR 12325, Apr. 10, 1986]

### § 60.92 Standard for particulate matter.

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

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

### § 60.93 Test methods and procedures.

- (a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).
- (b) The owner or operator shall determine compliance with the particulate matter standards in §60.92 as follows:
  - (1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).
  - (2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

[54 FR 6667, Feb. 14, 1989]

## Reference

The US EPA Electronic Code of Federal Regulations - 40 CFR 60, Subpart I: Standards of Performance for Hot Mix Asphalt Facilities web address:

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=875648a88dd2168ac2096fe26e3e4c98&rgn=div6&view=text&node=40:6.0.1.1.1.20&idno=40>

# Indiana Department of Environmental Management Office of Air Quality

## Technical Support Document (TSD) for a Federally Enforceable State Operating Permit Renewal

### Source Description and Location

<b>Source Name:</b>	Dave O'Mara Contractor, Inc. - Plant #8
<b>Source Location:</b>	610 Base Road, Hayden, Indiana 47245
<b>County:</b>	Jennings
<b>SIC Code:</b>	2951
<b>Permit Renewal No.:</b>	F079-27815-05269
<b>Permit Reviewer:</b>	Hannah L. Desrosiers

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Dave O'Mara Contractor, Inc. relating to the continued operation of their stationary drum hot-mix asphalt plant, and cold-mix asphalt manufacturing operation.

### History

On April 21, 2009, Dave O'Mara Contractor, Inc. submitted an application to the OAQ requesting to renew the operating permit for Plant #8. Dave O'Mara Contractor, Inc. has confirmed that they want the flexibility to use steel slag and recycled shingles in their aggregate mix, for this asphalt plant (Plant #8). Additionally, Dave O'Mara Contractor, Inc. has confirmed that although this plant was originally permitted as a portable asphalt plant, it has never been moved since construction. In July 2006, the maximum capacity of the plant was increased to three hundred seventy-five (375) tons per hour of raw material, and additional limits were added for SO<sub>2</sub>, VOC, PM and PM<sub>10</sub> emissions. Dave O'Mara Contractor, Inc. - Plant #8 was issued a FESOP on April 1, 2005.

### Permitted Emission Units and Pollution Control Equipment

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

- (a) One (1) stationary drum hot-mix asphalt dryer/mixer, constructed in 2005, with a nominal capacity of three hundred seventy-five (375) tons per hour throughput of raw material, processing steel slag and recycled shingles (certified asbestos free - factory seconds and/or post consumer waste, only) in the aggregate mix, equipped with one (1) ninety-six and eight tenths (96.8) million British thermal units per hour (MMBtu/hr) No. 4 residual fuel oil fired burner, using No. 2 distillate fuel oil as a back up fuel, controlling particulate emissions with one (1) single compartment baghouse, and exhausting to one (1) stack, identified as EP1. No grinding of shingles occurs at this source.
- (b) Material processing, handling, screening, and conveying operations, constructed in 2005, uncontrolled and exhausting to the atmosphere, and consisting of the following:
  - (1) Aggregate storage piles consisting of gravel, recycled asphalt pavement, steel slag and shingles (factory seconds and/or post consumer waste);
    - (A) RAP storage piles, with a maximum anticipated pile size of fifty hundredths (0.50) acres;
    - (B) Gravel storage piles, with a maximum anticipated pile size of fifty hundredths (0.50) acres;

- (C) Steel slag storage piles, with a maximum anticipated pile size of twenty-five hundredths (0.25) acres; and
  - (D) Shingles (certified asbestos free - factory seconds and/or post consumer waste) storage piles, with a maximum anticipated pile size of two (2.00) acres.
- (2) Two (2) aggregate conveyors;
  - (3) One (1) recycled asphalt conveyor;
  - (4) One (1) aggregate scalping screen;
  - (5) One (1) RAP screen;
  - (6) Five (5) aggregate cold feed bins; and
  - (7) One (1) RAP feeder bin.
- (c) Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles.

**Unpermitted Emission Units and Pollution Control Equipment**

No unpermitted emission units were discovered operating at this existing source during this review process.

**Emission Units and Pollution Control Equipment Removed From the Source**

No emission units were removed from this existing source during this review process.

**Insignificant Activities**

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) One (1) liquid asphalt cement hot oil heating system, constructed in 2005, including one (1) No. 2 distillate fuel oil fired hot oil heater, with a nominal rated heat input capacity of one and fifteen hundredths (1.15) MMBtu/hr, using natural gas as back up fuel, and exhausting to one (1) stack, identified as EP2; [326 IAC 6-2]
- (b) One (1) 20,000 gallon liquid asphalt storage tank, installed in 2005;
- (c) One (1) 15,000 gallon liquid asphalt storage tank, installed in 2005;
- (d) One (1) 15,000 gallon No. 4 residual fuel oil storage tank, installed in 2005;
- (e) One (1) 10,000 gallon No. 2 distillate fuel oil storage tank, installed in 2005;
- (f) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment; and
- (g) Paved roads and parking lots with public access. [326 IAC 6-5]

**Existing Approvals**

Since the issuance of FESOP No. 079-20374-05269 on April 1, 2005, the source has constructed or has been operating under the following approvals as well:

- (a) Significant Permit Revision No. 079-22790-05269, issued on July, 25, 2006.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

**Enforcement Issues**

There are no enforcement actions pending.

**Emission Calculations**

See Appendices A.1 and A.2 of this TSD for detailed emission calculations.

**County Attainment Status**

The source is located in Jennings County. The following attainment status designations are applicable to Jennings County:

<b>Pollutant</b>	<b>Designation</b>
PM10	Unclassifiable effective November 15, 1990.
PM2.5	Unclassifiable or attainment effective April 5, 2005.
SO2	Better than national standards.
NO2	Cannot be classified or better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O3	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. <sup>1</sup>
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.	

- (a) Ozone Standards  
 Volatile organic compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. Jennings County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) PM2.5  
 Jennings County has been classified as attainment for PM2.5. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.
- (c) Other Criteria Pollutants  
 Jennings County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

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**Fugitive Emissions**

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

**Portable Source**

This source, initially permitted as portable source, has been located at its current location, 610 Base Road, Hayden, Indiana, since the initial FESOP No. F 079-20347-05269 was issued April 1, 2005. Therefore, pursuant to 326 IAC 2-1.1-1(15), this source does not meet the definition of a portable source because it has not moved at least once in the last permit term. Consequently, IDEM has determined that this source is actually a stationary source, and the permit will be revised accordingly to reflect this. If in the future, the source should decide that it wants to move this plant to another location, an application for new source construction and FESOP must be submitted to IDEM, OAQ, at least one hundred twenty (120) days prior to the intended date of relocation.

**Permit Level Determination – FESOP**

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

<b>Pollutant</b>	<b>tons/year</b>
PM	46,056.69
PM10 <sup>(1)</sup>	10,699.80
PM2.5	2,481.31
SO2	246.70
NOx	91.10
VOC	39,538.20
CO	216.76
Total HAPs <sup>(2)</sup>	10,311.85
Maximum (Worst Case) HAP	3,552.97 (xylenes)

**NOTES**

- (1) Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.
- (2) HAPs include 2-butanone, 2-methylnaphthalene, acetaldehyde, benzene, ethylbenzene, formaldehyde, hexane, hydrogen chloride, naphthalene, phenanthrene, polycyclic organic matter, quinone, toluene, total PAH Haps, xylenes, and antimony, arsenic, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium, compounds.
- (3) Appendix A.1 of this TSD reflects the uncontrolled, unlimited, potential emissions of the source.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10, PM2.5, SO2, VOC, and CO are each equal to or greater than one hundred (100) tons per year. Consequently, the source is subject to the provisions of 326 IAC 2-7. However, the Permittee has agreed to limit the source's PM10, PM2.5, SO2, VOC, and CO emissions to less than Title V levels, therefore the Permittee will be issued a FESOP Renewal.
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) NOx is less than one hundred (100) tons per year, therefore, the Permittee will be issued a FESOP Renewal.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. However, the Permittee has agreed to limit the source's single HAP emissions and total HAP emissions below Title V levels. Therefore, the Permittee will be issued a FESOP Renewal.

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

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

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Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of FESOP Renewal (tons/year)								
	PM	*PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Worst Single HAP
<b>Ducted Emissions</b>									
Dryer Fuel Combustion (worst case) <sup>(1)</sup>	2.66	4.30	4.30	92.60	26.09	0.26	6.52	0.13	0.08 (formaldehyde)
Dryer/Mixer <sup>(2)</sup> (Process)	187.50	75.00	75.00	4.13	20.63	24.00	82.88	3.30	1.16 (formaldehyde)
Dryer/Mixer Slag Processing <sup>(3)</sup>	0	0	0	1.875	0	0	0	0	N/A
Hot Oil Heater Fuel Combustion (worst case)	0.08	0.13	0.13	2.69	0.76	0.03	0.44	0.012	0.009 (hexane)
<b>Total Process Emissions</b>	<b>187.58</b>	<b>75.13</b>	<b>75.13</b>	<b>97.17</b>	<b>26.84</b>	<b>24.03</b>	<b>83.32</b>	<b>3.32</b>	<b>1.16 (formaldehyde)</b>
<b>Fugitive Emissions</b>									
Asphalt Load-Out and On-Site Yard <sup>(4)</sup>	0.20	0.20	0.20	0	0	1.85	0.64	0.04	0.01 (xylenes)
Material Storage Piles	0.63	0.22	0.22	0	0	0	0	0	N/A
Material Processing and Handling <sup>(4)</sup>	2.42	1.15	0.17	0	0	0	0	0	N/A
Material Screening, and Conveying <sup>(4)</sup>	9.98	3.49	3.49	0	0	0	0	0	N/A
Unpaved and Paved Roads (worst case) <sup>(1)</sup>	3.09	0.60	0.09	0	0	0	0	0	N/A
Cold-mix Asphalt Production <sup>(5)</sup>	0	0	0	0	0	68.00	0	17.74	6.12 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	N/A
Volatile Organic Liquid Storage Vessels **	0	0	0	0	0	negl	0	negl	negl
<b>Total Fugitive Emissions</b>	<b>16.32</b>	<b>5.66</b>	<b>4.17</b>	<b>0</b>	<b>0</b>	<b>69.85</b>	<b>0.64</b>	<b>17.78</b>	<b>6.13 (xylenes)</b>
<b>Total Limited/ Controlled Emissions</b>	<b>203.89</b>	<b>80.78</b>	<b>79.30</b>	<b>97.17</b>	<b>26.84</b>	<b>93.88</b>	<b>83.95</b>	<b>21.09</b>	<b>6.13 (xylenes)</b>
Title V Major Source Thresholds	N/A	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	N/A	N/A
Emission Offset/ Nonattainment NSR Major Source Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
negl = negligible N/A = Not applicable * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". Additionally, US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. ** Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible. (1) Limited PTE based upon annual production and fuel usage limits to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP). (2) Limited PTE based upon annual production limit and lb/ton emission limits to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP). (3) Limited PTE based upon annual steel slag usage limit, lb/ton SO2 emission limits, and %SO2 content limits to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP). (4) Limited PTE based upon annual production limit to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP). (5) Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP).									

(a) FESOP Status

This existing source is not a Title V major stationary source, because the potential to emit PM10, PM2.5, SO2, VOCs, and CO from the entire source will be limited to less than the Title V major source threshold levels. In addition, this existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the potential to emit HAPs will be limited to less than ten (10) tons per year for a single HAP and twenty-five (25) tons per year of total HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act and is subject to the provisions of 326 IAC 2-8 (FESOP).

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

- (1) Pursuant to 326 IAC 2-8-4, PM10, PM2.5, and CO emissions from the dryer/mixer burner, shall be limited as follows:
  - (A) The annual hot-mix asphalt production rate shall not exceed 750,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month. This is a new limit for this source.
  - (B) PM10 emissions from the dryer/mixer shall not exceed two hundred thousandths (0.200) pounds of PM10 per ton of asphalt produced. This is a change from the existing limit of twenty and twenty-nine hundredths (20.29) pounds per hour PM10 emission rate.
  - (C) PM2.5 emissions from the dryer/mixer shall not exceed two hundred thousandths (0.200) pounds of PM2.5 per ton of asphalt produced. This is a new limit for this source.
  - (D) CO emissions from the dryer/mixer shall not exceed two hundred twenty-one thousandths (0.221) pounds of CO per ton of asphalt produced. This is a new limit for this source.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, VOC, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, and CO to less than one hundred (100) tons per twelve (12) consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Note: The following terms and conditions from previous approvals have been revised in this FESOP Renewal:

- (i) During this review, the emissions calculations were updated to reflect the source's most current "worst-case" operating conditions for all units, and includes emissions not previously counted. Additionally, since OAQ relies on the most up-to-date emission factors recommended by U.S. EPA, facility emissions have been characterized using the most recent version of U.S. EPA's AP-42.
- (ii) The source was offered the opportunity to transition from their existing pound per hour (lb/hr) limits to new pound per ton (lb/ton) emission limits coupled with a maximum annual hot-mix asphalt production limit (ton/yr). The dual lb/ton and ton/yr limits are more practicably enforceable, and offer a more thorough and comprehensive method of determining compliance. Thereby enabling the source to more easily ensure compliance with the one hundred (100) ton per year FESOP thresholds, to render the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable. Therefore:

- (α) A new FESOP limit for a maximum annual asphalt production rate has been added to the permit.
- (β) The existing pound per hour (lb/hr) PM10 emission limit has been converted to a pound per ton (lb/ton) limit, which complements the ton per year asphalt production limit.
- (γ) CO emissions from the drying/mixing process, not previously accounted for in FESOP 079-22790-05269, have been calculated. In order to ensure compliance with the one hundred (100) ton per year FESOP threshold for CO, and to render the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, a new FESOP (lb/ton) limit for CO has been added to the permit;
- (δ) HAP emissions from fuel combustion, and the drying/mixing process, not previously accounted for in FESOP 079-22790-05269, have been calculated. No change to the permit occurred because of this update.
- (iii) A new pound per ton (lb/ton) FESOP limit for PM2.5 has been added to the permit, because on May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, with an effective date for the rule of July 15, 2008. While Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements, the May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

See Appendix A for the detailed calculations.

- (2) Pursuant to 326 IAC 2-8-4, SO2 emissions from the dryer/mixer burner, hot oil heater, and steel slag processing shall be limited as follows:

(A) Slag & Fuel Specifications

- (1) The sulfur content of the steel slag shall not exceed sixty-six hundredths percent (0.66%) by weight. This is a new limit for this source.
- (2) SO2 emissions from the steel slag used in the dryer/mixer shall not exceed fifty thousandths (0.050) pounds of SO2 per ton of slag processed. This is a new limit for this source.
- (3) The sulfur content of the No. 2 distillate fuel oil shall continue to not exceed five-tenths percent (0.5%) by weight. This is an existing limit for this source.
- (4) The sulfur content of the No. 4 residual fuel oil shall not exceed one and six tenths percent (1.6%) by weight. This is a change from the existing limit of five-tenths percent (0.5%) by weight.

Note: The following terms and conditions from previous approvals have been revised in this FESOP Renewal:

- (i) The source has requested the addition of steel slag to the permit to increase the operational flexibility of Plant #8. Therefore, in order to ensure compliance with the one hundred (100) ton per year FESOP threshold for SO2, and to make the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant

Deterioration (PSD)) not applicable, a maximum usage limit, pound per ton (lb/ton) SO<sub>2</sub> emission limit, and sulfur content limits have been added to the permit.

- (ii) Upon request of the source, the sulfur content limit of the No. 4 fuel oil has been changed from five-tenths percent (0.5%) by weight to one and six tenths percent (1.6%) by weight. This request has been honored because, according to AP-42, "No. 4 fuel oil is classified as being either distillate oil or a mixture of distillate and residual oils". Additionally, according to Wikipedia, "No. 4 fuel oil is usually a blend of distillate and residual fuel oils, such as No. 2 and No. 6; however, sometimes it is just a heavy distillate. No. 4 may be classified as diesel, distillate or residual fuel oil". The No. 4 fuel oil usage limit has been revised to accommodate the increased sulfur content in order to ensure compliance with the one hundred (100) ton per year FESOP threshold for SO<sub>2</sub>, and to make the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

(B) Slag Usage Limitations:

The amount of steel slag used in the production of hot-mix asphalt shall not exceed 75,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is a new limit for this source.

Compliance with this requirement, combined with the potential SO<sub>2</sub> emissions from all other emission units at this source, shall limit the source-wide total potential to emit SO<sub>2</sub> to less than one hundred (100) tons per twelve (12) consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Note: The following terms and conditions from previous approvals have been revised in this FESOP Renewal:

- (i) Recent testing performed on another asphalt plant facility, having similar operations, has shown that slag emits higher SO<sub>2</sub> emissions than were previously accounted for in standard asphalt plant emission calculations. Consequently, IDEM determined that the emission factors developed during that testing should be applied to emissions from slag use at all asphalt plants, and that permit requirements and conditions should be revised and/or added, as needed, to account for any additional SO<sub>2</sub> emissions generated by the addition of slag to the aggregate mix.

Dave O'Mara Contractor, Inc. - Plant #8 has requested the addition of steel slag to the permit to increase the operational flexibility of Plant #8. Therefore, a maximum usage limit, pound per ton (lb/ton) SO<sub>2</sub> emission limit, and sulfur content limits have been added to the permit in order to ensure compliance with the one hundred (100) ton per year FESOP threshold for SO<sub>2</sub>, and making the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

(C) Single Fuel Usage Limitations:

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

- (ii) No. 4 residual fuel oil usage shall not exceed 760,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is a change from the existing limit of 2,488,267 gallons, or equivalent, per twelve (12) consecutive month period; and
- (ii) No. 2 distillate fuel oil usage shall not exceed 2,608,500 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is a change from the existing fuel equivalency of 1000 gal of No. 2 distillate fuel oil per every nine hundred eighty-nine (989) gal of No. 4 fuel oil based on SO<sub>2</sub> emissions, such that the total gallons of No. 4 fuel oil and No. 4 fuel oil equivalent input does not exceed the limit specified (or a maximum of 2,628,451 gallons of No. 2 distillate fuel oil per twelve (12) consecutive month period).

See Appendix A for the detailed calculations.

Note: The following terms and conditions from previous approvals have been revised in this FESOP Renewal:

- (α) The No. 4 fuel oil usage limit has been revised to accommodate the increased sulfur content associated with residual fuel oil, from five-tenths percent (0.5%) by weight for distillate fuel oil to one and six tenths percent (1.6%) by weight, and to allow for the addition of slag into the aggregate mix. See Sub-section (A) Slag & Fuel Specifications above for more details.
- (β) The No. 2 distillate fuel oil usage limit has been revised to accommodate the change of the No. 4 fuel oil from distillate to residual, and to allow for the addition of slag into the aggregate mix.

The above listed changes were made to ensure compliance with the one hundred (100) ton per year FESOP threshold for SO<sub>2</sub>, and to make the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

(D) Multiple Fuel & Slag Usage Limitation:

When combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner and all other combustion equipment, in conjunction with the use of steel slag in the aggregate mix, emissions from the dryer/mixer shall be limited as follows:

- (1) Sulfur dioxide (SO<sub>2</sub>) emissions from the dryer/mixer shall be less than one hundred (100) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Note: The following terms and conditions from previous approvals have been revised in this FESOP Renewal:

- (α) The existing permit specifies compliance in terms of fuel equivalency, however, the source has indicated that they would prefer compliance be demonstrated by equation, as follows;

The Permittee shall limit fuel usage in the dryer/mixer burner and hot oil heating system according to the following formula:

$$S = \frac{F(E_F) + R(E_R) + L(E_L) + N(E_N)}{2,000 \text{ lbs/ton}}$$

where: S = tons of sulfur dioxide emissions for twelve (12) month consecutive period  
F = gallons of No. 2 distillate fuel oil used in last twelve (12) months  
R = gallons of No. 4 residual fuel oil used in last twelve (12) months  
L = tons of steel slag used in last twelve (12) months  
N = million cubic feet of natural gas used in last twelve (12) months

Emission Factors for Sulfur Dioxide

$E_F$  = seventy-one (71.0) pounds per one thousand (1000) gallons of No. 2 distillate fuel oil  
 $E_R$  = two hundred forty (240) pounds per one thousand (1000) gallons of No. 4 residual fuel oil  
 $E_L$  = fifty thousandths (0.050) pounds per ton of steel slag processed.  
 $E_N$  = six tenths (0.6) pounds per one million (1,000,000) cubic feet of natural gas

Compliance with these limits, combined with the potential emissions from all other emission units at this source, shall limit the source-wide total potential to emit SO<sub>2</sub> to less than one hundred (100) tons per twelve (12) consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD) not applicable.

- (4) Pursuant to 326 IAC 2-8-4, and in order to limit HAP emissions from the dryer/mixer, the Permittee shall comply with the following:
- (A) The Permittee shall use only certified asbestos-free factory seconds and/or post consumer waste shingles as an additive in its aggregate mix. This is a new limit for this source.

Compliance with these limits, combined with the limited PTE from all other emission units at this source, shall limit the source-wide total potential to emit any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and any combination of HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (PSD), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

Note: The following terms and conditions from previous approvals have been revised in this FESOP Renewal:

- (i) Since Dave O'Mara does not intend to grind shingles at this plant, they will be required to use/purchase only supplier certified asbestos-free factory seconds and post consumer waste shingles in their aggregate mix. This requirement will be included, because it is the physical act of grinding that releases asbestos into the air. Therefore, the company performing the grinding would need to test the shingles, prior to grinding, in order for the testing to be effective.
- (5) Pursuant to 326 IAC 2-8-4, the Volatile Organic Compound (VOC) emissions from the cold-mix, cutback asphalt production shall be limited as follows:
- (A) The usage of liquid binder in the production of cold-mix cutback asphalt shall be limited such that VOC emissions do not exceed sixty-eight (68.00) tons per twelve

(12) consecutive month period with compliance determined at the end of each month. This is a change from the existing VOC emission limit of eighty and sixty-four hundredths (80.64) tons per year.

Compliance with this limit, combined with the VOC emissions from all other emission units at this source, will continue to limit source-wide VOC emissions to less than one hundred (100) tons per twelve (12) consecutive month period, and render 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-2 (PSD)) not applicable.

See Appendix A for the detailed calculations.

Note: The following terms and conditions from previous approvals have been revised in this FESOP Renewal:

- (i) The most recent AP-42 emission factor has also been used to characterize VOC emissions from the cold-mix asphalt production and storage. The cold-mix VOC limit has been revised to accommodate this change, in addition to the effect of the new asphalt production limit on the VOC emissions from the dryer/mixer unit.
- (ii) HAP emissions from the cold-mix asphalt production and storage, not previously accounted for in FESOP 079-22790-05269, have been calculated. The revised cold-mix VOC limit is sufficient to limit the cold-mix asphalt production rate such that source wide potential to emit of any single HAP is limited to less than ten (10) tons per year, and any combination of HAPs is limited to less than twenty-five (25) tons per year; and therefore, rendering 326 IAC 2-7 (Part 70) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

(b) PSD Minor Source

This existing source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit PM is still limited to less than two hundred fifty (250) tons per year and the potential to emit all other attainment regulated pollutants are limited to, or are less than, one hundred (100) tons per year. Additionally, this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

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

- (1) The annual hot-mix asphalt production rate shall not exceed 750,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month. This is a new limit for this source.
- (2) PM emissions from the dryer/mixer shall not exceed five hundred thousandths (0.500) pounds per ton of asphalt processed. This is a change from the existing limit of forty-eight and forty hundredths (48.40) pounds per hour PM10 emission rate.

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 two hundred fifty (250) tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Note: The following terms and conditions from previous approvals have been revised in this FESOP Renewal:

- (A) As noted above, the emissions calculations were updated to reflect the source's most current "worst-case" operating conditions for all units, and includes emissions not previously counted. Additionally, the most recent AP-42 emission factors have been used to characterize these emissions.
- (B) Also, as noted above, the source was offered the opportunity to transition from their existing pound per hour (lb/hr) limits to the new pound per ton (lb/ton) emission limits coupled with a maximum annual hot-mix asphalt production limit (ton/yr). The dual lb/ton and ton/yr limits are more practicably enforceable, and offer a more thorough and comprehensive method of determining compliance. Thereby enabling the source to more easily ensure compliance with the two hundred fifty (250) ton per year PSD threshold, in order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable. Therefore:
  - (i) A new FESOP limit for a maximum annual hot-mix asphalt production rate has been added to the permit.
  - (ii) The existing pound per hour (lb/hr) particulate matter (PM) emission limit has been converted to a pound per ton (lb/ton) limit, which complements the ton/year asphalt production limit.

See Appendix A for detailed calculations.

### Federal Rule Applicability Determination

#### New Source Performance Standards (NSPS)

(a) 40 CFR 60, Subpart I - Standards for Hot-mix Asphalt Facilities

This stationary drum hot-mix asphalt plant, approved for construction in 2005, is subject to the New Source Performance Standards for Hot-mix Asphalt Facilities, 40 CFR 60, Subpart I (326 IAC 12), because it meets the definition of a hot-mix asphalt facility pursuant to the rule and was constructed after June 11, 1973.

Therefore, pursuant to 40 CFR 60.92(a), particulate matter emissions from the dryer/mixer, and all other emission units, shall not exceed four hundredths (0.04) grains per dry standard cubic foot (gr/dscf), and visible emissions shall not exceed twenty percent (20%) opacity.

The source will comply with this rule by using a single compartment baghouse to limit particulate matter emissions from the dryer/mixer to less than four hundredths (0.04) gr/dscf, and by applying the management techniques outlined in their Fugitive Dust Plan, included as Attachment A to the permit.

The hot-mix asphalt facility is subject to the following portions of 40 CFR 60, Subpart I:

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

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

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

(b) 40 CFR 60, Subpart Dc - Standards for Small Industrial/Commercial/Institutional Steam Generating Units

The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc (326 IAC 12), are not included in this renewal, because the one (1) No. 2 distillate fuel oil fired hot oil heater, having a maximum rated heat

input capacity of one and fifteen hundredths (1.15) MMBtu/hr, has a maximum design heat input capacity of less than the applicability threshold of ten (10) million British thermal units per hour.

(c) 40 CFR 60, Subpart Kb - Standards for Volatile Organic Liquid Storage Vessels

(1) The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels, 40 CFR 60, Subpart Kb (326 IAC 12), are not included in this renewal for the one (1) 20,000 gallon liquid asphalt storage tank, because although the tank was constructed after the rule applicability date of July 23, 1984 and has a maximum capacity greater than 75 m<sup>3</sup> (19,813 gallons) but less than 151 m<sup>3</sup> (39,890 gallons), the liquid stored in the tank has a true maximum vapor pressure of less than fifteen kiloPascals (15.0 kPa). Additionally, the tank is no longer subject to the recordkeeping requirements of 40 CFR 60.116b (a) and (b) through 326 IAC 12, due to recent revisions to State Rule, 326 IAC 1-1-3 (References to the Code of Federal Regulations).

(2) The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels, 40 CFR 60, Subpart Kb (326 IAC 12), are not included in this renewal for the one (1) 15,000 gallon liquid asphalt storage tank, the one (1) 15,000 gallon No. 4 residual fuel oil storage tank, and the one (1) 10,000 gallon No. 2 distillate fuel oil storage tank, each, because although each tank was constructed after the rule applicability date of July 23, 1984, each tank has a maximum capacity of less than 75 m<sup>3</sup> (19,813 gallons), and the liquid stored in each tank has a maximum true vapor pressure of less than fifteen kiloPascals (15.0 kPa). Additionally, each tank is no longer subject to the recordkeeping requirements of 40 CFR 60.116b (a) and (b) through 326 IAC 12, due to recent revisions to State Rule, 326 IAC 1-1-3 (References to the Code of Federal Regulations).

(d) 40 CFR 60, Subpart UU - Standards for Asphalt Processing and Asphalt Roofing Manufacture

The requirements of the New Source Performance Standard for Asphalt Processing and Asphalt Roofing Manufacture, 40 CFR 60, Subpart UU (2U) (326 IAC 12), are not included in this renewal, because the stationary drum hot-mix asphalt plant still does not meet the definition of an asphalt processing plant, since it does not blow asphalt, or an asphalt roofing plant since it does not produce asphalt roofing products, and finally pursuant to §60.101(a) the stationary drum hot-mix asphalt plant is still not a petroleum refinery since it is not engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives.

(e) 40 CFR 60, Subpart OOO - Standards for Nonmetallic Mineral Processing Plants

The requirements of the New Source Performance Standard for Nonmetallic Mineral Processing Plants, 40 CFR 60, Subpart OOO (3O) (326 IAC 12), are not included in this renewal, because the stationary drum hot-mix asphalt plant still does not perform onsite crushing of Recycled Asphalt Pavement (RAP) but instead continues to use pre-crushed/pre-sized RAP materials their aggregate mix.

(f) 40 CFR 60, Subpart UUU - Standards for Calciners and Dryers in Mineral Industries

The requirements of the New Source Performance Standard for Calciners and Dryers in Mineral Industries, 40 CFR 60, Subpart UUU (3U) (326 IAC 12), are not included in this renewal, because the stationary drum hot-mix asphalt plant still does not meet the definition of a mineral processing plant, since it does not process or produce any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.

(g) There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) included in this renewal.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(a) 40 CFR 63, Subpart DDDDD - NESHAPs for Industrial, Commercial, and Institutional Boilers and Process Heaters

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD (5D) (326 IAC 20), are not included in this renewal, as follows:

On June 8, 2007, the United States Court of Appeals for the District of Columbia Circuit (in National Resource Defense Council, Sierra Club, Environmental Integrity Project vs. EPA, No. 04-1385), vacated 40 CFR 63, Subpart DDDDD in its entirety. Additionally, since State Rule 326 IAC 20-95 incorporated the requirements of the NESHAP 40 CFR 63, Subpart DDDDD by reference, the requirements of 326 IAC 20-95 are no longer effective. However, since NESHAP 40 CFR Part 63, Subpart DDDDD has been vacated, Section 112(j) of the Clean Air Act, major sources of Hazardous Air Pollutants (HAPs), in specified source categories, requires a case-by-case MACT determination when EPA fails to promulgate a scheduled MACT Standard by the regulatory deadline. This source is still considered an area source under Section 112 of the Clean Air Act, MACT Standards, and is therefore not subject to a case-by-case MACT determination.

(b) 40 CFR 63, Subpart LLLLL - NESHAPs for Asphalt Processing and Asphalt Roofing Manufacturing

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart LLLLL (5L) (326 IAC 20-71), are not included in this renewal, because the stationary drum hot-mix asphalt plant still does not meet the definition of an asphalt processing plant or an asphalt roofing manufacturing facility, since it does not engage in the preparation of asphalt flux or asphalt roofing materials. Additionally, it is not a major source of HAPs, and is not located at nor is it a part of a major source of HAP emissions.

(c) 40 CFR 63, Subpart CCCCC - NESHAP for the Source Category Identified as Gasoline Dispensing Facilities (GDF)

The requirements of this National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Source Category Identified as Gasoline Dispensing Facilities (GDF), 40 CFR 63.11110, Subpart CCCCC (6C) (326 IAC 20), are not included in this renewal, because this existing stationary drum hot-mix asphalt plant has no gasoline dispensing facilities.

(d) 40 CFR 63, Subpart AAAAAA - NESHAP for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart AAAAAA (7A) (326 IAC 20), are not included in this renewal, because although the stationary drum hot-mix asphalt plant is an area source of hazardous air pollutant (HAP) emissions, as defined in §63.2, it does not meet the definition of an asphalt processing operation or an asphalt roofing manufacturing operation, as defined in §63.11566, since it does not engage in the preparation of asphalt flux or asphalt roofing materials.

(e) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this renewal.

Compliance Assurance Monitoring (CAM)

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the renewal, 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 source:

- (a) 326 IAC 1-7 (Stack Height)  
The unlimited and uncontrolled PM10 and SO2 emissions from this existing source, each, are greater than one hundred (100) tons per year. Therefore, this source continues to be subject to this rule and requirements are included in Section C, of this renewal.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))  
PSD applicability is discussed under the "PTE of the Entire Source after Issuance of the FESOP" section above.
- (c) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))  
The unlimited potential to emit HAPs from the existing cold-mix asphalt production operation is still greater than ten (10) tons per year for any single HAP and greater than twenty-five (25) tons per year of a combination of HAPs. However, the source has agreed to continue to limit the potential HAPs emissions from this facility 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 requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) still do not apply, see "PTE of the Entire Source after Issuance" section above, and the requirements are not included in the in this renewal.
- (d) 326 IAC 2-6 (Emission Reporting)  
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is still not required to have an operating permit under 326 IAC 2-7 (Part 70), it is still not located in Lake, Porter, or LaPorte County, and it still does not emit lead into the ambient air at levels equal to or greater than five (5) tons per year.

However, pursuant to 326 IAC 2-6-1(b), all sources permitted by the department are subject to 326 IAC 2-6-5 which states that the department may request emissions and emission-related information about any regulated air pollutant as defined at 326 IAC 2-7-1(31) from any permitted source when needed for air quality planning, air quality modeling, or state implementation plan development.

- (e) 326 IAC 2-8-4 (FESOP)  
FESOP applicability is discussed under the "PTE of the Entire Source after Issuance of the FESOP" section above.
- (f) 326 IAC 5-1 (Opacity Limitations)  
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (g) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)  
The one (1) existing No. 2 distillate fuel oil fired hot oil heater, having a maximum rated heat input capacity of one and fifteen hundredths (1.15) MMBtu/hr, is subject to 326 IAC 6-2-4 because it was constructed after the rule applicability date of September 21, 1983, and it meets the definition of an indirect heating unit, as defined in 326 IAC 1-2-19, since it combusts fuel to produce usable heat that is to be transferred through a heat-conducting materials barrier or by a heat storage medium to a material to be heated so that the material being heated is not contacted by, and adds no substance to the products of combustion.

Pursuant to 326 IAC 6-2-4(a), for a total source maximum operating capacity rating less than ten (10) MMBtu/hr, the pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input shall not exceed six tenths (0.6) pounds per MMBtu (lb/MMBtu).

Therefore, particulate emissions from the hot oil heater shall not exceed six tenths (0.6) pounds per MMBtu heat input.

(h) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

(1) The existing drum dryer/mixer continues to be subject to 40 CFR 60, Subpart I (Standards of Performance for Hot-mix Asphalt Facilities), incorporated by reference through 326 IAC 12. Therefore, pursuant to 326 IAC 6-3-1(c)(5), the existing dryer/mixer is still not subject to the requirements of 326 IAC 6-3 because it is subject to the more stringent particulate limit established in 326 IAC 12.

(2) The existing hot oil heater is still not subject to the requirements of 326 IAC 6-3 because it is already otherwise subject to 326 IAC 6-2.

(i) 326 IAC 6-4 (Fugitive Dust Emissions)

The asphalt load-out and on-site yard, material storage piles, material processing and handling, material screening and conveying, and paved and unpaved roads, each, have the potential to emit fugitive particulate emissions; therefore, this existing source continues to be subject to the requirements of 326 IAC 6-4. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the existing source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

(j) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This source is subject to the requirements of 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), because it was constructed after December 13, 1985, and continues to have a potential to emit fugitive particulate matter greater than twenty-five (25) tons per year. A copy of the Fugitive Dust Control Plan is included as Attachment A to the permit.

(k) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)

(1) The existing dryer/mixer burner is still subject to 326 IAC 7-1.1 because it has potential SO<sub>2</sub> emissions of greater than twenty-five (25) tons per year (limited potential emissions are ninety-six and thirty-one hundredths (96.31) tons per year). Pursuant to this rule, sulfur dioxide emissions from the dryer/mixer burner shall continue to be limited to five-tenths (0.5) pounds per million Btu for distillate oil combustion (No. 2 fuel oil), and shall be limited to one and six tenths (1.6) pounds per million Btu for residual oil (No. 4 fuel oil).

(2) The existing hot oil heater is still not subject to the requirements of 326 IAC 7-1.1 because it has potential SO<sub>2</sub> emissions of less than twenty-five (25) tons per year. Therefore, the requirements of this rule are still not included in the renewal for this facility.

(l) 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements)

Pursuant to this rule, the source shall continue to submit reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate (pounds SO<sub>2</sub> per MMBtu), to the OAQ upon request.

(m) 326 IAC 8-1-6 (VOC rules: General Reduction Requirements for New Facilities)

(1) The unlimited potential VOC emissions from the existing dryer/mixer are greater than twenty-five (25) tons per year. However, the source shall limit the potential VOC emissions from the existing dryer/mixer to less than twenty-five (25) tons per year, therefore, rendering the requirements of 326 IAC 8-1-6 not applicable.

In order to render the requirements of 326 IAC 8-1-6 not applicable, the existing dryer/mixer shall be limited as follows:

- (A) The annual hot-mix asphalt production rate shall not exceed 1,250,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (B) VOC emissions from the dryer/mixer shall not exceed sixty-four thousandths (0.064) pounds of VOC per ton of asphalt produced.

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

See Appendix A for the detailed calculations.

Note: The following terms and conditions from previous approvals have been revised in this FESOP Renewal:

- (i) A new FESOP limit for a maximum annual hot-mix asphalt production rate has been added to the permit. This allows for dual ton/yr and lbs/ton limits, which are more practicably enforceable, and offer a more thorough and comprehensive method of determining compliance. Thereby, enabling the source to more easily ensure compliance with the twenty five (25) tons/yr threshold, and render the requirements of 326 IAC 8-1-6 BACT not applicable.
  - (ii) The most recent AP-42 emission factor has also been used to characterize VOC emissions from the fuel combustion and the drying/mixing process. In order to ensure compliance with the twenty five (25) tons/yr threshold, to render the requirements of 326 IAC 8-1-6 BACT not applicable, a new (lbs/ton) limit for VOC has been added to the permit;
- (2) The cold-mix asphalt production operation, a source of potential VOC emissions greater than twenty-five (25) tons per year, is still subject to the requirements of 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving); therefore, the requirements of 326 IAC 8-1-6 still do not apply to the cold-mix asphalt production and are not included in this renewal.
  - (3) The unlimited potential to emit VOCs from each of the three (3) existing liquid asphalt storage tanks, identified as 11A, 11B, and 11C, is still less than twenty-five (25) tons per year, therefore, the requirements of 326 IAC 8-1-6 still do not apply to the three (3) existing liquid asphalt storage tanks and are not included in the in this renewal.

See Appendix A for the detailed calculations.

- (n) 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)  
The existing one (1) 20,000 gallon liquid asphalt storage tank, one (1) 15,000 gallon liquid asphalt storage tank, one (1) 15,000 gallon No. 4 residual fuel oil storage tank, and one (1) 10,000 gallon No. 2 distillate fuel oil storage tank, each, have a maximum storage capacity less than thirty-nine thousand (39,000) gallons. Therefore, are the requirements of 326 IAC 8-4-3 still do not apply to any these tanks and are not included in this renewal.
- (o) 326 IAC 8-5-2 (Asphalt paving rules)  
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; and
  - (c) application during the months of November, December, January, February and March.
- (p) 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)  
This stationary source is located in Jennings County. The requirements of 326 IAC 8-9 apply only to vessels used to store a volatile organic liquid that are located in Clark, Floyd, Lake or Porter Counties. Therefore, the requirements of 326 IAC 8-9 do not apply to the one (1) 20,000 gallon liquid asphalt storage tank, one (1) 15,000 gallon liquid asphalt storage tank, the one (1) 15,000 gallon No. 4 residual fuel oil storage tank, and the one (1) 10,000 gallon No. 2 distillate fuel oil storage tank, each, and are not included in this renewal.
- (q) There are no other 326 IAC 8 Rules that are applicable to the existing stationary drum hot-mix asphalt plant and/or the cold-mix asphalt production operation,
- (r) 326 IAC 9-1 (Carbon Monoxide Emission Limits)  
This existing stationary drum hot-mix asphalt plant is still not one of the source types listed in 326 IAC 9-1-2. Therefore, the requirements of 326 IAC 9-1 are not included in this renewal.
- (s) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category)  
The existing one (1) ninety-six and eight tenths (96.8) mmBtu dryer burner still does not meet the definition of an affected facility, as defined in 326 IAC 10-3-1(a), because it still has a maximum a heat input of less than two hundred fifty million (250,000,000) British thermal units per hour (mmBtu); therefore, it is still not subject to this rule and the requirements are not included in this renewal.
- (t) 326 IAC 12 (New Source Performance Standards)  
See Federal Rule Applicability Section of this TSD.
- (u) 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 source are as follows:
  - (1) The existing dryer/mixer has applicable compliance determination conditions as specified below:

Emission Unit	Control Device	Pollutant	Timeframe for Testing	Frequency of Testing	Limit or Requirement
Aggregate dryer/mixer	Single compartment baghouse	PM	No later than five (5) yrs of last valid test*	Once every five (5) years	0.355 lb PM/ton of asphalt for PSD; and 0.04 gr/dscf for 40 CFR 60, Subpart I
Aggregate dryer/mixer	Single compartment baghouse	PM10 PM2.5	No later than 180 days after publication of revised test method or no later than five (5) yrs of last valid test.	Once every five (5) years	0.143 lb PM10 /ton of asphalt; and 0.147 lb PM2.5/ton of asphalt

\* The last valid stack test occurred on September 23, 2005. The source was in compliance at that time.

- (A) In order to comply with the PM, PM10, and PM2.5 limitations in the permit, the single compartment baghouse for the dryer/mixer, shall continue to be in operation and control emissions from the dryer/mixer at all times when the dryer/mixer is in operation.
  - (B) The annual hot-mix asphalt production rate will be used to verify compliance with the PSD PM, and FESOP PM10, PM2.5, VOC, and CO emission limitations, and the BACT avoidance VOC emission limitation.
  - (C) The slag and fuel characteristics (i.e., sulfur content) and usage rates will be used to verify compliance with the SO2 emission limitations.
  - (D) A certification from each factory seconds shingle supplier is required to document that the shingles contain no asbestos. Alternately, the source may perform a test.
  - (E) A certification from the supplier for each load of post consumer waste shingles is required to document that the shingles contain no asbestos.
- (2) The usage of liquid binder in the production of cold-mix cutback asphalt will be used to verify compliance with the FESOP VOC emission limitation.
- (b) The existing drum mixer and aggregate dryer/burner, single compartment baghouse stack exhaust, and the conveying, screening, and material transfer points continue to have applicable compliance monitoring conditions as specified below:

Emission Unit & Control Device	Parameter	Frequency	Range	Excursions and Exceedances
Single compartment baghouse for the dryer/mixer stack (EP1)	Visible Emissions	Once per day	normal/abnormal	Response Steps
	Pressure Drop	Once per day	2.0 to 8.0 inches	Response Steps
	Bags in baghouse	As needed	normal/abnormal	Response Steps
Conveyors, screens, and material transfer points	Visible Emissions	Once per day	normal/abnormal	Response Steps

These monitoring conditions are necessary because the single compartment baghouse used in conjunction with the hot-mix dryer/mixer must operate properly to ensure continued 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.

### Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this permit renewal was received on April 21, 2009.

The construction and operation of this source shall be subject to the conditions of the attached FESOP Renewal, No. 179-27815-05269. The staff recommends to the Commissioner that this FESOP Renewal be approved.

### IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Ms. Hannah Desrosiers 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) 234-5374 or toll free at 1-800-451-6027 extension 4-5374.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.idem.in.gov](http://www.idem.in.gov)

**Appendix A.1: Unlimited Emissions Calculations  
Entire Source**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

**Asphalt Plant Maximum Capacity**

Maximum Hourly Asphalt Production =	375	ton/hr								
Maximum Annual Asphalt Production =	3,285,000	ton/yr								
Maximum Annual Steel Slag Usage =	2,463,750	ton/yr	0.66	% sulfur						
Maximum Dryer Fuel Input Rate =	96.8	MMBtu/hr								
Natural Gas Usage =	0	MMCF/yr								
No. 2 Fuel Oil Usage =	6,122,513	gal/yr, and	0.50	% sulfur						
No. 4 Residual Fuel Oil Usage =	2,018,971	gal/yr, and	1.60	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0	% sulfur						
Propane Usage =	0	gal/yr, and								
Butane Usage =	0	gal/yr, and								
Used/Waste Oil Usage =	0	gal/yr, and	0	% sulfur	0	% ash	0	% chlorine,	0	% lead
Diesel Engine Oil Usage =	0	gal/yr, and								
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production								
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production								
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production								
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production								
Unlimited CO Dryer/Mixer Emission Factor =	0.13	lb/ton of asphalt production								
Unlimited Slag SO2 Dryer/Mixer Emission Factor =	0.0014	lb/ton of slag processed								

**Unlimited/Uncontrolled Emissions**

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)								
	Criteria Pollutants						Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP
<b>Ducted Emissions</b>									
Dryer Fuel Combustion (worst case)	7.07	10.10	10.10	242.28	61.23	0.61	15.31	0.32	0.19 (hexane)
Dryer/Mixer (Process)	45,990.00	10,676.25	2,463.75	18.07	90.34	52.56	213.53	14.48	5.09 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	1.72	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.08	0.13	0.13	2.69	0.76	0.03	0.44	0.01	0.01 (hexane)
<b>Worst Case Emissions*</b>	<b>45,990.08</b>	<b>10,676.38</b>	<b>2,463.88</b>	<b>246.70</b>	<b>91.10</b>	<b>52.59</b>	<b>213.97</b>	<b>14.49</b>	<b>5.09 (formaldehyde)</b>
<b>Fugitive Emissions</b>									
Asphalt Load-Out and On-Site Yard	0.86	0.86	0.86	0	0	8.12	2.79	0.17	0.04 (xylenes)
Material Storage Piles	0.63	0.22	0.22	0	0	0	0	0	0
Material Processing and Handling	10.34	4.89	0.74	0	0	0	0	0	0
Material Screening, and Conveying	43.69	15.29	15.29	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	11.09	2.16	0.32	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	39,477.49	0	10,297.19	3,552.97 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	negl	0
<b>Total Fugitive Emissions</b>	<b>66.61</b>	<b>23.42</b>	<b>17.43</b>	<b>0.00</b>	<b>0.00</b>	<b>39,485.61</b>	<b>2.79</b>	<b>10,297.36</b>	<b>3,552.97 (xylenes)</b>
<b>Totals Unlimited/Uncontrolled PTE</b>	<b>46,056.69</b>	<b>10,699.80</b>	<b>2,481.31</b>	<b>246.70</b>	<b>91.10</b>	<b>39,538.20</b>	<b>216.76</b>	<b>10,311.85</b>	<b>3,552.97 (xylenes)</b>

negl = negligible

Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.

\*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion

Fuel component percentages provided by the source.

**Appendix A.1: Unlimited Emissions Calculations**  
**Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

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 at the source.

**Maximum Capacity**

Maximum Hourly Asphalt Production =	375	ton/hr
Maximum Annual Asphalt Production =	3,285,000	ton/yr
Maximum Fuel Input Rate =	96.8	MMBtu/hr
Natural Gas Usage =	0	MMCF/yr
No. 2 Fuel Oil Usage =	6,122,513	gal/yr, and
No. 4 Residual Fuel Oil Usage =	2,018,971	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and
Propane Usage =	0	gal/yr, and
Butane Usage =	0	gal/yr, and
Used/Waste Oil Usage =	0	gal/yr, and
Diesel Engine Oil Usage =	0	gal/yr, and

0.50	% sulfur
1.60	% sulfur
0	% sulfur
0	gr/100 ft3 sulfur
0	gr/100 ft3 sulfur
0	% sulfur
0	% ash
0	% chlorine
0	% 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)	No. 4 Residual Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Diesel Engine (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Residual Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	Diesel Engine (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	7.0	3.22	0.5	0.6	0.0	43.4	0	6.12	7.07	0	0	0	0	0	7.07
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	0.0	43.4	0	10.10	8.38	0	0	0	0	0	10.10
SO2	0.6	71.0	240.0	0.0	0.0	0.0	0.0	40.6	0	217.35	242.28	0	0	0	0	0	242.28
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	617.4	0	61.23	20.19	0	0	0	0	0	61.23
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	49.0	0	0.61	0.20	0	0	0	0	0	0.61
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	133.0	0	15.31	5.05	0	0	0	0	0	15.31
<b>Hazardous Air Pollutant</b>																	
HCl							0.0										0
Antimony			5.25E-03	5.25E-03			negl				5.30E-03	0					0.005
Arsenic	2.00E-04	5.60E-04	1.32E-03	1.32E-03			1.1E-01		0	1.71E-03	1.33E-03	0					1.71E-03
Beryllium	1.20E-05	4.20E-04	2.78E-05	2.78E-05			negl		0	1.29E-03	2.81E-05	0					1.29E-03
Cadmium	1.10E-03	4.20E-04	3.98E-04	3.98E-04			9.30E-03		0	1.29E-03	4.02E-04	0					1.29E-03
Chromium	1.40E-03	4.20E-04	8.45E-04	8.45E-04			2.00E-02		0	1.29E-03	8.53E-04	0					1.29E-03
Cobalt	8.40E-05		6.02E-03	6.02E-03			2.10E-04		0		6.08E-03	0					0.006
Lead	5.00E-04	1.26E-03	1.51E-03	1.51E-03			0		0	3.86E-03	1.52E-03	0					3.86E-03
Manganese	3.80E-04	8.40E-04	3.00E-03	3.00E-03			6.80E-02		0	2.57E-03	3.03E-03	0					0.003
Mercury	2.60E-04	4.20E-04	1.13E-04	1.13E-04					0	1.29E-03	1.14E-04	0					1.29E-03
Nickel	2.10E-03	4.20E-04	8.45E-02	8.45E-02			1.10E-02		0	1.29E-03	8.53E-02	0					0.085
Selenium	2.40E-05	2.10E-03	6.83E-04	6.83E-04			negl		0	6.43E-03	6.89E-04	0					6.43E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04							2.38E-04	0					2.38E-04
1,3-Butadiene							5.47E-03									0	0
Acetaldehyde							1.07E-01									0	0
Acrolein							1.30E-02									0	0
Benzene	2.10E-03		2.14E-04	2.14E-04			1.31E-01		0		2.16E-04	0					2.16E-04
Bis(2-ethylhexyl)phthalate							2.20E-03									0	0
Dichlorobenzene	1.20E-03						8.00E-07		0							0	0
Ethylbenzene			6.36E-05	6.36E-05							6.42E-05	0					6.42E-05
Formaldehyde	7.50E-02	6.10E-02	3.30E-02	3.30E-02				1.65E-01	0	1.87E-01	3.33E-02	0					0.187
Hexane	1.80E+00								0								0
Phenol							2.40E-03									0	0
Toluene	3.40E-03		6.20E-03	6.20E-03				5.79E-02	0		6.26E-03	0					0.006
Total PAH Haps	negl		1.13E-03	1.13E-03			3.91E-02	2.35E-02	0		1.14E-03	0					1.14E-03
Polycyclic Organic Matter		3.30E-03								1.01E-02							0.010
Xylene			1.09E-04	1.09E-04				3.99E-02			1.10E-04	0					1.10E-04
<b>Total HAPs</b>									0	0.22	0.15	0	0	0	0	0	0.32

**Methodology**

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 MMCF/1,000 MMBtu]  
 Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.140 MMBtu]  
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.0905 MMBtu]  
 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 7/08), 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)  
 PM2.5 = Particulate Matter (< 2.5 um)  
 SO2 = Sulfur Dioxide  
 NOx = Nitrogen Oxides  
 VOC = Volatile Organic Compounds  
 CO = Carbon Monoxide  
 HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride  
 PAH = Polycyclic Aromatic Hydrocarbon

**Worst Single HAP**

**0.19 (nickel)**

\*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 residual fuel oil, it was assumed that HAP emissions from combustion of No. 4 residual fuel oil were equal to combustion of No. 6 residual fuel oil.

**Appendix A.1: Unlimited Emissions Calculations**  
**Dryer/Mixer Process Emissions**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

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

Maximum Hourly Asphalt Production = 375 ton/hr  
Maximum Annual Asphalt Production = 3,285,000 ton/yr

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	28	28	28	0	45,990.0	0	<b>45,990.00</b>
PM10*	6.5	6.5	6.5	0	10,676.3	0	<b>10,676.25</b>
PM2.5*	1.5	1.5	1.5	0	2,463.8	0	<b>2,463.75</b>
SO2**	0.0034	0.011	0.058	0	18.1	0	<b>18.07</b>
NOx**	0.026	0.055	0.055	0	90.3	0	<b>90.34</b>
VOC**	0.032	0.032	0.032	0	52.6	0	<b>52.56</b>
CO***	0.13	0.13	0.13	0	213.5	0	<b>213.53</b>
Hazardous Air Pollutant							
HCl			2.10E-04	0		0	<b>0</b>
Antimony	1.80E-07	1.80E-07	1.80E-07	0	2.96E-04	0	<b>2.96E-04</b>
Arsenic	5.60E-07	5.60E-07	5.60E-07	0	9.20E-04	0	<b>9.20E-04</b>
Beryllium	negl	negl	negl	negl	negl	0	<b>0</b>
Cadmium	4.10E-07	4.10E-07	4.10E-07	0	6.73E-04	0	<b>6.73E-04</b>
Chromium	5.50E-06	5.50E-06	5.50E-06	0	9.03E-03	0	<b>9.03E-03</b>
Cobalt	2.60E-08	2.60E-08	2.60E-08	0	4.27E-05	0	<b>4.27E-05</b>
Lead	6.20E-07	1.50E-05	1.50E-05	0	2.46E-02	0	<b>0.025</b>
Manganese	7.70E-06	7.70E-06	7.70E-06	0	1.26E-02	0	<b>0.013</b>
Mercury	2.40E-07	2.60E-06	2.60E-06	0	4.27E-03	0	<b>4.27E-03</b>
Nickel	6.30E-05	6.30E-05	6.30E-05	0	0.10	0	<b>0.103</b>
Selenium	3.50E-07	3.50E-07	3.50E-07	0	5.75E-04	0	<b>5.75E-04</b>
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0	0.07	0	<b>0.066</b>
Acetaldehyde			1.30E-03	0		0	<b>0</b>
Acrolein			2.60E-05	0		0	<b>0</b>
Benzene	3.90E-04	3.90E-04	3.90E-04	0	0.64	0	<b>0.641</b>
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0	0.39	0	<b>0.394</b>
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	0	5.09	0	<b>5.092</b>
Hexane	9.20E-04	9.20E-04	9.20E-04	0	1.51	0	<b>1.511</b>
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0	0.08	0	<b>0.079</b>
MEK			2.00E-05	0		0	<b>0</b>
Propionaldehyde			1.30E-04	0		0	<b>0</b>
Quinone			1.60E-04	0		0	<b>0</b>
Toluene	1.50E-04	2.90E-03	2.90E-03	0	4.76	0	<b>4.763</b>
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0	1.45	0	<b>1.445</b>
Xylene	2.00E-04	2.00E-04	2.00E-04	0	0.33	0	<b>0.329</b>

**Total HAPs**                    **14.48**  
**Worst Single HAP**           **5.09**                    **(formaldehyde)**

**Abbreviations**

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

HAP = Hazardous Air Pollutant  
PAH = Polyaromatic Hydrocarbon

**Methodology**

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)  
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-4, 11.1-7, 11.1-8, 11.1-10, and 11.1-12  
Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.  
\* PM, PM10, and PM2.5 AP-42 emission factors based on drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. According to AP-42 fuel type does not significantly effect PM, PM10, and PM2.5 emissions.  
\*\* SO2, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.  
\*\*\* CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

**Note**

Based on the specifications of the shingles as provided by the source, there will be no additional emissions due to the use of shingles in the aggregate mix.

**Appendix A.1: Unlimited Emissions Calculations  
Dryer/Mixer Slag Processing**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

The following calculations determine the unlimited emissions from the processing of slag in the aggregate drying/mixing

Maximum Annual Slag Usage\* =  ton/yr  % sulfur

	Emission Factor (lb/ton)**	Unlimited Potential to Emit (tons/yr)
Criteria Pollutant	Slag Processing	Slag Processing
SO <sub>2</sub>	0.0014	1.72

**Abbreviations**

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

**Methodology**

\* The maximum annual slag usage was provided by the source.

\*\* Testing results for hot-mix asphalt, containing steel slag in the aggregate mix, obtained June 2009 from similar operations at an E & B Paving, Inc. facility located in Huntington, IN. The testing results showed an emission factor of 0.0007 lb/ton from asphalt containing steel slag with a sulfur content of 0.33%.

Unlimited Potential to Emit SO<sub>2</sub> from Slag (tons/yr) = [(Maximum Annual Slag Usage (ton/yr)) \* [Emission Factor (lb/ton)] \* [ton/2000 lbs]

**Appendix A.1: Unlimited Emissions Calculations**  
**Hot Oil Heater**  
**Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr  
 Natural Gas Usage = 10.51 MMCF/yr  
 No. 2 Fuel Oil Usage = 75,899 gal/yr, and 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	0.010	0.076	0.08
PM10/PM2.5	7.6	3.3	0.040	0.125	0.13
SO2	0.6	71.0	0.003	2.694	2.69
NOx	100	20.0	0.526	0.759	0.76
VOC	5.5	0.20	0.029	0.008	0.03
CO	84	5.0	0.442	0.190	0.44
<b>Hazardous Air Pollutant</b>					
Arsenic	2.00E-04	5.60E-04	1.05E-06	2.13E-05	2.13E-05
Beryllium	1.20E-05	4.20E-04	6.31E-08	1.59E-05	1.59E-05
Cadmium	1.10E-03	4.20E-04	5.78E-06	1.59E-05	1.59E-05
Chromium	1.40E-03	4.20E-04	7.36E-06	1.59E-05	1.59E-05
Cobalt	8.40E-05		4.42E-07		4.42E-07
Lead	5.00E-04	1.26E-03	2.63E-06	4.78E-05	4.78E-05
Manganese	3.80E-04	8.40E-04	2.00E-06	3.19E-05	3.19E-05
Mercury	2.60E-04	4.20E-04	1.37E-06	1.59E-05	1.59E-05
Nickel	2.10E-03	4.20E-04	1.10E-05	1.59E-05	1.59E-05
Selenium	2.40E-05	2.10E-03	1.26E-07	7.97E-05	7.97E-05
Benzene	2.10E-03		1.10E-05		1.10E-05
Dichlorobenzene	1.20E-03		6.31E-06		6.31E-06
Ethylbenzene					0
Formaldehyde	7.50E-02	6.10E-02	3.94E-04	2.31E-03	2.31E-03
Hexane	1.80E+00		9.46E-03		9.46E-03
Phenol					0
Toluene	3.40E-03		1.79E-05		1.79E-05
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		1.25E-04	1.25E-04

**Total HAPs** 0.012  
**Worst Single HAP** 9.46E-03 (hexane)

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 SO2 = Sulfur Dioxide  
 NOx = Nitrogen 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]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \* [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [kgal/1000 gal] \* [ton/2000 lbs]

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

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

**Appendix A.1: Unlimited Emissions Calculations  
Asphalt Load-Out and Yard Emissions**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

The following calculations determine the unlimited/uncontrolled fugitive emissions from hot asphalt mix load-out 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 =	3,285,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Load-Out	On-Site Yard	Load-Out	On-Site Yard	Total
Total PM*	5.2E-04	NA	0.86	NA	0.86
Organic PM	3.4E-04	NA	0.56	NA	0.56
TOC	0.004	0.001	6.83	1.81	8.64
CO	0.001	3.5E-04	2.22	0.58	2.79

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

<b>PM/HAPs</b>	<b>0.040</b>	<b>0</b>	<b>0.040</b>
<b>VOC/HAPs</b>	<b>0.101</b>	<b>0.027</b>	<b>0.128</b>
<b>non-VOC/HAPs</b>	<b>5.3E-04</b>	<b>1.4E-04</b>	<b>6.65E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.50</b>	<b>0.13</b>	<b>0.63</b>

<b>Total VOCs</b>	<b>6.42</b>	<b>1.70</b>	<b>8.12</b>
<b>Total HAPs</b>	<b>0.14</b>	<b>0.027</b>	<b>0.17</b>
<b>Worst Single HAP</b>			<b>0.035</b>
			<b>(xylene)</b>

**Abbreviations**

TOC = Total Organic Compounds  
CO = Carbon Monoxide  
PM = Particulate Matter  
PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)  
HAP = Hazardous Air Pollutant  
VOC = Volatile Organic Compound

**Methodology**

The asphalt temperature and volatility factor were provided by the source.

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)::

$$\text{Total PM/PM10/PM2.5 Ef} = 0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$$

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

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

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

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

\*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

**Appendix A.1: Unlimited Emissions Calculations  
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

**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)	Load-out	Onsite Yard	Total
<b>PAH HAPs</b>								
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	1.5E-03	NA	1.46E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	1.6E-04	NA	1.57E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	3.9E-04	NA	3.92E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	1.1E-04	NA	1.06E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	4.3E-05	NA	4.26E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	1.2E-05	NA	1.23E-05
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	1.1E-05	NA	1.06E-05
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	1.3E-05	NA	1.29E-05
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	4.4E-05	NA	4.37E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	5.8E-04	NA	5.77E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	2.1E-06	NA	2.07E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	2.8E-04	NA	2.80E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	4.3E-03	NA	4.31E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	2.6E-06	NA	2.63E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	1.3E-02	NA	0.013
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	7.0E-03	NA	7.00E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	1.2E-04	NA	1.23E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	4.5E-03	NA	4.54E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	8.4E-04	NA	8.40E-04
<b>Total PAH HAPs</b>						<b>0.033</b>	<b>NA</b>	<b>0.033</b>
<b>Other semi-volatile HAPs</b>								
Phenol		PM/HAP	---	Organic PM	1.18%	6.6E-03	0	6.61E-03

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

**Methodology**

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

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

**Abbreviations**

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

**Appendix A.1: Unlimited Emissions Calculations  
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

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

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile	Unlimited/Uncontrolled Potential to Emit (tons/yr)		
					Load-out and Onsite Yard (% by weight of TOC)	Load-out	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	<b>6.42</b>	<b>1.70</b>	<b>8.12</b>
non-VOC/non-HAPS								
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	4.44E-01	1.17E-01	0.561
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	3.14E-03	8.31E-04	0.004
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	4.85E-02	1.28E-02	0.061
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>0.499</b>	<b>0.132</b>	<b>0.63</b>
Volatile organic HAPs								
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	3.55E-03	9.40E-04	4.49E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	6.56E-04	1.73E-04	8.29E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	3.35E-03	8.85E-04	4.23E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	8.88E-04	2.35E-04	1.12E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	1.43E-05	3.79E-06	1.81E-05
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	1.02E-03	2.71E-04	1.30E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	7.51E-03	1.99E-03	9.50E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	1.91E-02	5.06E-03	0.024
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	6.01E-03	1.59E-03	0.008
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	1.02E-02	2.71E-03	0.013
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	1.23E-04	3.25E-05	1.55E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0	0	0
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	4.99E-04	1.32E-04	6.31E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	5.26E-04	1.39E-04	6.65E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	1.43E-02	3.79E-03	0.018
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	8.88E-05	2.35E-05	1.12E-04
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	2.80E-02	7.41E-03	0.035
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	5.46E-03	1.45E-03	6.91E-03
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>0.102</b>	<b>0.027</b>	<b>0.130</b>

**Abbreviations**

TOC = Total Organic Compounds

VOC = Volatile Organic Compound

HAP = Hazardous Air Pollutant

MTBE = Methyl tert butyl ether

**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

**Appendix A.1: Unlimited Emissions Calculations  
Material Storage Piles**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

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

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

where  $E_f$  = emission factor (lb/acre/day)  
 $s$  = silt content (wt %)  
 $p$  =  days of rain greater than or equal to 0.01 inches  
 $f$  =  % 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/PM2.5 (tons/yr)
Sand	2.6	3.01	0	0	0
Limestone	1.6	1.85	0	0	0
RAP	0.5	0.58	0.50	0.05	0.02
Gravel	1.6	1.85	0.50	0.17	0.06
Slag	3.8	4.40	0.25	0.20	0.07
Shingles	0.5	0.58	2.00	0.21	0.07
<b>Totals</b>				<b>0.63</b>	<b>0.22</b>

**Abbreviations**

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

RAP - recycled asphalt pavement

**Methodology**

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

PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) \* 35%

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

\*\*Maximum anticipated pile size (acres) taken from FESOP F079-22790-05269.

**Note**

Shingle silt content assumed to be equal to that of RAP based on the source provided specifications of the shingles.

PM2.5 = PM10

**Appendix A.1: Unlimited Emissions Calculations  
Material Processing, Handling, Screening, and Conveying**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

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

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

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

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

k (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U =	10	= 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) =	2.21E-03	lb PM/ton of material handled
$E_f$ (PM10) =	1.04E-03	lb PM10/ton of material handled
$E_f$ (PM2.5) =	1.58E-04	lb PM2.5/ton of material handled

Maximum Annual Asphalt Production =	3,285,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,120,750	tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	3.45	1.63	0.25
Front-end loader dumping of materials into feeder bins	3.45	1.63	0.25
Conveyor dropping material into dryer/mixer or batch tower	3.45	1.63	0.25
<b>Total (tons/yr)</b>	<b>10.34</b>	<b>4.89</b>	<b>0.74</b>

**Methodology**

The percent asphalt cement/binder provided by the source.

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

Unlimited 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 (Indianapolis, 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/PM2.5 (tons/yr)**
Screening	0.025	0.0087	39.01	13.58
Conveying	0.003	0.0011	4.68	1.72
<b>Unlimited Potential to Emit (tons/yr) =</b>			<b>43.69</b>	<b>15.29</b>

**Abbreviations**

PM = Particulate Matter

PM2.5 = Particulate matter (< 2.5 um)

PM10 = Particulate Matter (<10 um)

PTE = Potential to Emit

**Methodology**

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

Unlimited 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

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).

\*\*Assumes PM10 = PM2.5

**Appendix A.1: Unlimited Emissions Calculations**  
**Paved Roads**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

**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 =	3,285,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,120,750	tons/yr
Maximum Asphalt Cement/Binder Throughput =	164,250	tons/yr
Maximum No. 2 Fuel Oil Usage =	6,122,513	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)	15.0	21.6	36.6	1.4E+05	5.3E+06	150	0.028	4,104.5
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	15.0	0	15.0	1.4E+05	2.2E+06	150	0.028	4,104.5
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	10.0	18.0	28.0	9.1E+03	2.6E+05	150	0.028	259.2
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	10.0	0	10.0	9.1E+03	9.1E+04	150	0.028	259.2
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	10.0	21.0	31.0	9.9E+02	3.1E+04	150	0.028	28.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	10.0	0	10.0	9.9E+02	9.9E+03	150	0.028	28.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	19.6	4.0	23.6	7.8E+05	1.8E+07	150	0.028	22,164.4
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	19.6	0	19.6	7.8E+05	1.5E+07	150	0.028	22,164.4
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	15.0	20.0	35.0	1.6E+05	5.7E+06	150	0.028	4,666.2
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	15.0	0	15.0	1.6E+05	2.5E+06	150	0.028	4,666.2
<b>Total</b>					<b>2.2E+06</b>	<b>5.0E+07</b>			<b>62,444.7</b>

Average Vehicle Weight Per Trip =	22.6	tons/trip
Average Miles Per Trip =	0.028	miles/trip

Unmitigated Emission Factor, Ef = [k \* (sL/2)<sup>0.65</sup> \* (W/3)<sup>1.5</sup> - C] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	8.2E-02	1.6E-02	2.4E-03	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	23	23	23	tons = average vehicle weight (provided by source)
C =	4.7E-04	4.7E-04	3.6E-04	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	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, Eext = E \* [1 - (p/4N)]

Mitigated Emission Factor, Eext =	Ef * [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	PM2.5	
Unmitigated Emission Factor, Ef =	0.78	0.15	0.02	lb/mile
Mitigated Emission Factor, Eext =	0.71	0.14	0.02	lb/mile
Dust Control Efficiency =	50%	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)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	1.6E+00	3.1E-01	4.6E-02	1.5E+00	2.8E-01	4.2E-02	7.3E-01	1.4E-01	2.1E-02
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	1.6E+00	3.1E-01	4.6E-02	1.5E+00	2.8E-01	4.2E-02	7.3E-01	1.4E-01	2.1E-02
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	1.0E-01	2.0E-02	2.9E-03	9.2E-02	1.8E-02	2.7E-03	4.6E-02	9.0E-03	1.3E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	1.0E-01	2.0E-02	2.9E-03	9.2E-02	1.8E-02	2.7E-03	4.6E-02	9.0E-03	1.3E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.1E-02	2.1E-03	3.1E-04	9.9E-03	1.9E-03	2.9E-04	5.0E-03	9.7E-04	1.4E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.1E-02	2.1E-03	3.1E-04	9.9E-03	1.9E-03	2.9E-04	5.0E-03	9.7E-04	1.4E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	8.6E+00	1.7E+00	2.5E-01	7.9E+00	1.5E+00	2.3E-01	3.9E+00	7.7E-01	1.1E-01
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	8.6E+00	1.7E+00	2.5E-01	7.9E+00	1.5E+00	2.3E-01	3.9E+00	7.7E-01	1.1E-01
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	1.8E+00	3.5E-01	5.2E-02	1.7E+00	3.2E-01	4.8E-02	8.3E-01	1.6E-01	2.4E-02
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	1.8E+00	3.5E-01	5.2E-02	1.7E+00	3.2E-01	4.8E-02	8.3E-01	1.6E-01	2.4E-02
<b>Totals</b>		<b>24.25</b>	<b>4.72</b>	<b>0.70</b>	<b>22.17</b>	<b>4.32</b>	<b>0.64</b>	<b>11.09</b>	<b>2.16</b>	<b>0.32</b>

**Abbreviations**

PM = Particulate Matter  
PM10 = Particulate Matter (<10 um)  
PM2.5 = Particulate Matter (<2.5 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)

**Notes**

PM2.5 = PM10

**Appendix A.1: Unlimited Emissions Calculations**  
**Unpaved Roads**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

**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 =	3,285,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,120,750	tons/yr
Maximum Asphalt Cement/Binder Throughput =	164,250	tons/yr
Maximum No. 2 Fuel Oil Usage =	6,122,513	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)	0	0	0	0	0	0	0	0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0	0	0	0	0	0	0	0
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0	0	0	0	0	0	0	0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0	0	0	0	0	0	0	0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0	0	0	0	0	0	0	0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0	0	0	0	0	0	0	0
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Average Vehicle Weight Per Trip =	0	tons/trip
Average Miles Per Trip =	0	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	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	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	0.9	= constant (AP-42 Table 13.2.2-2)
W =	0.0	0.0	0.0	tons = average vehicle weight (provided by source)
b =	0.45	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	PM2.5	
Unmitigated Emission Factor, $E_f =$	0	0	0	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0	0	0	lb/mile
Dust Control Efficiency =	50%	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)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0	0	0	0	0	0	0	0	0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0	0	0	0	0	0	0	0	0
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0	0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0	0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0	0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0	0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0	0	0	0	0	0	0	0	0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0	0	0	0	0	0	0	0	0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0	0	0	0	0	0	0	0	0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0	0	0	0	0	0	0	0	0
<b>Totals</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Abbreviations**

PM = Particulate Matter  
PM10 = Particulate Matter (<10 um)  
PM2.5 = Particulate Matter (<2.5 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)

**Notes**

PM2.5 = PM10

**Appendix A.1: Unlimited Emissions Calculations  
Cold Mix Asphalt Production and Stockpiles**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

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 =	3,285,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Asphalt Cement/Binder Throughput =	164,250	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%	41,555.25	39,477.49
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	46,975.50	32,882.85
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	32,850.00	8,212.50
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	24,637.50	11,431.80
Other asphalt with solvent binder	25.9%	2.5%	42,540.75	1,063.52
<b>Worst Case PTE of VOC =</b>				<b>39,477.49</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>10,297.19</b>
<b>PTE of Single HAP (tons/yr) =</b>	<b>3,552.97 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>

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Methodology**

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

Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] \* [Maximum Weight % of VOC Solvent in Binder]

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

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

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

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

**Appendix A.1: Unlimited Emissions Calculations  
Gasoline Fuel Transfer and Dispensing Operation**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling emission

Gasoline Throughput = 

0
---

 gallons/day  
= 

0
---

 kgal/yr

**Volatile Organic Compounds**

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0
Tank breathing and emptying	1.0	0
Vehicle refueling (displaced losses - controlled)	1.1	0
Spillage	0.7	0
<b>Total</b>		<b>0</b>

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>0</b>
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>0 Xylenes</b>

**Methodology**

The gasoline throughput was provided by the source.

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

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

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

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

\*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Calculations  
Entire Source**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

**Asphalt Plant Limitations**

Maximum Hourly Asphalt Production =	375	ton/hr								
Annual Asphalt Production Limitation =	750,000	ton/yr								
Steel Slag Usage Limitation =	75,000	ton/yr	0.66	% sulfur						
Natural Gas Limitation =	0	MMCF/yr								
No. 2 Fuel Oil Limitation =	2,608,500	gal/yr, and	0.50	% sulfur						
No. 4 Residual Fuel Oil Limitation =	760,000	gal/yr, and	1.60	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0	% sulfur						
Propane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Butane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	0	gal/yr, and	0	% sulfur	0	% ash	0	% chlorine,	0	% lead
Diesel Engine Oil Limitation =	0	gal/yr, and								
PM Dryer/Mixer Limitation =	0.500	lb/ton of asphalt production								
PM10 Dryer/Mixer Limitation =	0.200	lb/ton of asphalt production								
PM2.5 Dryer/Mixer Limitation =	0.200	lb/ton of asphalt production								
CO Dryer/Mixer Limitation =	0.221	lb/ton of asphalt production								
VOC Dryer/Mixer Limitation =	0.064	lb/ton of asphalt production								
Steel Slag SO2 Dryer/Mixer Limitation =	0.050	lb/ton of slag processed								
Cold Mix Asphalt VOC Usage Limitation =	68.00	tons/yr								
HCl Limitation =	0	lb/kgal								

**Limited/Controlled Emissions**

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP	
<b>Ducted Emissions</b>										
Dryer Fuel Combustion (worst case)	2.66	4.30	4.30	92.60	26.09	0.26	6.52	0.13	0.08	(formaldehyde)
Dryer/Mixer (Process)	187.50	75.00	75.00	4.13	20.63	24.00	82.88	3.30	1.16	(formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	1.875	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.08	0.13	0.13	2.69	0.76	0.03	0.44	0.012	0.009	(hexane)
<b>Worst Case Emissions*</b>	<b>187.58</b>	<b>75.13</b>	<b>75.13</b>	<b>97.17</b>	<b>26.84</b>	<b>24.03</b>	<b>83.32</b>	<b>3.32</b>	<b>1.16</b>	<b>(formaldehyde)</b>
<b>Fugitive Emissions</b>										
Asphalt Load-Out and On-Site Yard	0.20	0.20	0.20	0	0	1.85	0.64	0.04	0.01	(xylenes)
Material Storage Piles	0.63	0.22	0.22	0	0	0	0	0	0	
Material Processing and Handling	2.42	1.15	0.17	0	0	0	0	0	0	
Material Screening, and Conveying	9.98	3.49	3.49	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	3.09	0.60	0.09	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	68.00	0	17.74	6.12	(xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	negl	negl	
<b>Total Fugitive Emissions</b>	<b>16.32</b>	<b>5.66</b>	<b>4.17</b>	<b>0</b>	<b>0</b>	<b>69.85</b>	<b>0.64</b>	<b>17.78</b>	<b>6.13</b>	<b>(xylenes)</b>
<b>Totals Limited/Controlled Emissions</b>	<b>203.89</b>	<b>80.78</b>	<b>79.30</b>	<b>97.17</b>	<b>26.84</b>	<b>93.88</b>	<b>83.95</b>	<b>21.09</b>	<b>6.13</b>	<b>(xylenes)</b>

negl = negligible

Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.

\*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion  
Fuel component percentages provided by the source.

**Appendix A.2: Limited Emissions Calculations**  
**Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

The following calculations determine the limited 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.

**Production and Fuel Limitations**

Maximum Hourly Asphalt Production =	375	ton/hr
Annual Asphalt Production Limitation =	750,000	ton/yr
Natural Gas Limitation =	0	MMCF/yr
No. 2 Fuel Oil Limitation =	2,608,500	gal/yr, and
No. 4 Residual Fuel Oil Limitation =	760,000	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and
Propane Limitation =	0	gal/yr, and
Butane Limitation =	0	gal/yr, and
Used/Waste Oil Limitation =	0	gal/yr, and
Diesel Engine Oil Limitation =	0	gal/yr, and

	0.50	% sulfur
	1.60	% sulfur
	0	% sulfur
	0	gr/100 ft3 sulfur
	0	gr/100 ft3 sulfur
	0	% sulfur
	0	% ash
	0	% chlorine
	0	% lead

**Limited Emissions**

Criteria Pollutant	Emission Factor (units)								Limited Potential to Emit (tons/yr)								
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Residual Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Diesel Engine (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Residual Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	Diesel Engine (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	7.0	3.22	0.5	0.6	0.0	43.4	0	2.61	2.66	0	0	0	0	0	2.66
PM10	7.6	3.3	8.3	4.72	0.5	0.6	0	43.4	0	4.30	3.15	0	0	0	0	0	4.30
SO2	0.6	71.0	240.0	0.0	0.0	0.0	0.0	40.6	0	92.60	91.20	0	0	0	0	0	92.60
NOx	100.0	20.0	20.0	55.0	13.0	15.0	19.0	617.4	0	26.09	7.60	0	0	0	0	0	26.09
VOC	5.5	0.20	0.20	0.28	1.0	1.10	1.0	49.0	0	0.26	0.08	0	0	0	0	0	0.26
CO	84.0	5.0	5.0	5.0	7.5	8.4	5.0	133.0	0	6.52	1.90	0	0	0	0	0	6.52
<b>Hazardous Air Pollutant</b>																	
HCl							0.00E+00										0
Antimony			5.25E-03	5.25E-03			negl				2.00E-03	0					2.00E-03
Arsenic	2.00E-04	5.60E-04	1.32E-03	1.32E-03			1.10E-01		0	7.30E-04	5.02E-04	0					7.30E-04
Beryllium	1.20E-05	4.20E-04	2.78E-05	2.78E-05			negl		0	5.48E-04	1.06E-05	0					5.48E-04
Cadmium	1.10E-03	4.20E-04	3.98E-04	3.98E-04			9.30E-03		0	5.48E-04	1.51E-04	0					5.48E-04
Chromium	1.40E-03	4.20E-04	8.45E-04	8.45E-04			2.00E-02		0	5.48E-04	3.21E-04	0					5.48E-04
Cobalt	8.40E-05		6.02E-03	6.02E-03			2.10E-04		0		2.29E-03	0					2.29E-03
Lead	5.00E-04	1.26E-03	1.51E-03	1.51E-03			0.00E+00		0	1.64E-03	5.74E-04	0					0
Manganese	3.80E-04	8.40E-04	3.00E-03	3.00E-03			6.80E-02		0	1.10E-03	1.14E-03	0					0
Mercury	2.60E-04	4.20E-04	1.13E-04	1.13E-04					0	5.48E-04	4.29E-05	0					5.48E-04
Nickel	2.10E-03	4.20E-04	8.45E-02	8.45E-02			1.10E-02		0	5.48E-04	3.21E-02	0					0.032
Selenium	2.40E-05	2.10E-03	6.83E-04	6.83E-04			negl		0	2.74E-03	2.60E-04	0					2.74E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04							8.97E-05	0					8.97E-05
1,3-Butadiene							5.47E-03									0	0
Acetaldehyde							1.07E-01									0	0
Acrolein							1.30E-02									0	0
Benzene	2.10E-03		2.14E-04	2.14E-04			1.31E-01		0		8.13E-05	0				0	8.13E-05
Bis(2-ethylhexyl)phthalate							2.20E-03									0	0
Dichlorobenzene	1.20E-03						8.00E-07		0						0		0
Ethylbenzene			6.36E-05	6.36E-05							2.42E-05	0					2.42E-05
Formaldehyde	7.50E-02	6.10E-02	3.30E-02	3.30E-02			1.65E-01		0	7.96E-02	1.25E-02	0				0	0.080
Hexane	1.80E+00								0								0
Phenol							2.40E-03								0		0
Toluene	3.40E-03		6.20E-03	6.20E-03			5.73E-02		0		2.36E-03	0			0	0	2.36E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.91E-02	2.35E-02	0		4.29E-04	0			0	0	4.29E-04
Polycyclic Organic Matter		3.30E-03								4.30E-03							4.30E-03
Xylene			1.09E-04	1.09E-04			3.99E-02				4.14E-05	0					4.14E-05
<b>Total HAPs</b>									0	0.09	0.05	0	0	0	0.00	0.00	0.13

**Worst Single HAP 0.08 (formaldehyde)**

**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 7/08), 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)  
 PM2.5 = Particulate Matter (<2.5 um)  
 SO2 = Sulfur Dioxide  
 NOx = Nitrous Oxides  
 VOC = Volatile Organic Compounds  
 CO = Carbon Monoxide  
 HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride  
 PAH = Polyaromatic Hydrocarbon

\*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 residual fuel oil, it was assumed that HAP emissions from combustion of No. 4 residual fuel oil were equal to combustion of No. 6 residual fuel oil.

**Appendix A.2: Limited Emissions Calculations**  
**Dryer/Mixer**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

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

Maximum Hourly Asphalt Production =	375	ton/hr
Annual Asphalt Production Limitation =	750,000	ton/yr
PM Dryer/Mixer Limitation =	0.500	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.200	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.200	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.221	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.064	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	0.500	0.500	0.500	0	187.50	0	187.50
PM10*	0.200	0.200	0.200	0	75.00	0	75.00
PM2.5*	0.200	0.200	0.200	0	75.00	0	75.00
SO2**	0.003	0.011	0.058	0	4.13	0	4.13
NOx**	0.026	0.055	0.055	0	20.63	0	20.63
VOC**	0.064	0.064	0.064	0	24.00	0	24.00
CO***	0.221	0.221	0.221	0	82.88	0	82.88
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04	0		0	0
Antimony	1.80E-07	1.80E-07	1.80E-07	0	6.75E-05	0	6.75E-05
Arsenic	5.60E-07	5.60E-07	5.60E-07	0	2.10E-04	0	2.10E-04
Beryllium	negl	negl	negl	0	negl	0	0
Cadmium	4.10E-07	4.10E-07	4.10E-07	0	1.54E-04	0	1.54E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	0	2.06E-03	0	2.06E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	0	9.75E-06	0	9.75E-06
Lead	6.20E-07	1.50E-05	1.50E-05	0	5.63E-03	0	5.63E-03
Manganese	7.70E-06	7.70E-06	7.70E-06	0	2.89E-03	0	2.89E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	0	9.75E-04	0	9.75E-04
Nickel	6.30E-05	6.30E-05	6.30E-05	0	2.36E-02	0	0.024
Selenium	3.50E-07	3.50E-07	3.50E-07	0	1.31E-04	0	1.31E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0	1.50E-02	0	0.015
Acetaldehyde			1.30E-03	0		0	0
Acrolein			2.60E-05	0		0	0
Benzene	3.90E-04	3.90E-04	3.90E-04	0	1.46E-01	0	0.146
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0	9.00E-02	0	0.090
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	0	1.16E+00	0	1.163
Hexane	9.20E-04	9.20E-04	9.20E-04	0	3.45E-01	0	0.345
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0	1.80E-02	0	0.018
MEK			2.00E-05	0		0	0
Propionaldehyde			1.30E-04	0		0	0
Quinone			1.60E-04	0		0	0
Toluene	1.50E-04	2.90E-03	2.90E-03	0	1.09E+00	0	1.088
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0	3.30E-01	0	0.330
Xylene	2.00E-04	2.00E-04	2.00E-04	0	7.50E-02	0	0.075

**Total HAPs** 3.30  
**Worst Single HAP** 1.16 (formaldehyde)

**Abbreviations**

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

HAP = Hazardous Air Pollutant  
PAH = Polyaromatic Hydrocarbon

**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, 11.1-4, 11.1-7, 11.1-8, 11.1-10, and 11.1-12

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

\* PM, PM10, and PM2.5 AP-42 emission factors based on drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. According to AP-42 fuel type does not significantly effect PM, PM10, and PM2.5 emissions.

\*\* SO2, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.

\*\*\* CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

**Notes**

Based on the specifications of the shingles as provided by the source, there will be no additional emissions due to the use of shingles in the aggregate mix.

**Appendix A.2: Limited Emissions Calculations  
Dryer/Mixer Slag Processing**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

The following calculations determine the limited emissions from the processing of steel slag in the aggregate drying/mixing

Slag Usage Limitation =  ton/yr  
 SO2 Slag Limitation =  lb/ton of slag processed  % sulfur

	Emission Factor or Limitation (lb/ton)*	Limited Potential to Emit (tons/yr)
Criteria Pollutant	Slag Processing	Slag Processing
SO2	0.0500	1.875

**Abbreviations**

SO2 = Sulfur Dioxide

**Methodology**

\* Testing results for hot-mix asphalt, containing steel slag in the aggregate mix, obtained June 2009 from similar operations at an E & B Paving, Inc. facility located in Huntington, IN. The testing results showed an emission factor of 0.0007 lb/ton from asphalt containing steel slag with a sulfur content of 0.33%. The source has requested an emission factor of 0.05 lb/ton be used, to allow a margin of safety.

Limited Potential to Emit SO2 from Steel Slag (tons/yr) = (Slag Usage Limitation (ton/yr)) \* [Limited Emission Factor (lb/ton)] \* [ton/2000 lbs]

**Appendix A.2: Limited Emissions Calculations**  
**Hot Oil Heater**  
**Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr  
 Natural Gas Usage = 11 MMCF/yr  
 No. 2 Fuel Oil Usage = 75,899 gal/yr, and 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0.01	0.08	0.08
PM10/PM2.5	7.6	3.3	0.04	0.13	0.13
SO2	0.6	71.0	0.003	2.69	2.69
NOx	100	20.0	0.53	0.76	0.76
VOC	5.5	0.20	0.03	0.01	0.03
CO	84	5.0	0.44	0.19	0.44
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	5.6E-04	1.1E-06	2.13E-05	2.1E-05
Beryllium	1.2E-05	4.2E-04	6.3E-08	1.59E-05	1.6E-05
Cadmium	1.1E-03	4.2E-04	5.8E-06	1.59E-05	1.6E-05
Chromium	1.4E-03	4.2E-04	7.4E-06	1.59E-05	1.6E-05
Cobalt	8.4E-05		4.4E-07		4.4E-07
Lead	5.0E-04	1.3E-03	2.6E-06	4.78E-05	4.8E-05
Manganese	3.8E-04	8.4E-04	2.0E-06	3.19E-05	3.2E-05
Mercury	2.6E-04	4.2E-04	1.4E-06	1.59E-05	1.6E-05
Nickel	2.1E-03	4.2E-04	1.1E-05	1.59E-05	1.6E-05
Selenium	2.4E-05	2.1E-03	1.3E-07	7.97E-05	8.0E-05
Benzene	2.1E-03		1.1E-05		1.1E-05
Dichlorobenzene	1.2E-03		6.3E-06		6.3E-06
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	3.9E-04	2.31E-03	0.002
Hexane	1.8E+00		0.01		0.009
Phenol					0
Toluene	3.4E-03		1.8E-05		1.8E-05
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		1.25E-04	1.3E-04
<b>Total HAPs</b>					<b>0.012</b>
<b>Worst Single HAP</b>					<b>0.009 (hexane)</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]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \* [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [kgal/1000 gal] \* [ton/2000 lbs]

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

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

**Appendix A.2: Limited Emissions Calculations**

**Asphalt Load-Out and Yard Emissions**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

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

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	750,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)		Limited Potential to Emit (tons/yr)		
	Load-Out	On-Site Yard	Load-Out	On-Site Yard	Total
Total PM*	5.22E-04	NA	0.20	NA	0.20
Organic PM	3.41E-04	NA	0.13	NA	0.13
TOC	0.004	0.001	1.56	0.41	1.97
CO	0.001	3.5E-04	0.51	0.13	0.64

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

PM/HAPs	0.009	0	0.009
VOC/HAPs	0.023	0.006	0.029
non-VOC/HAPs	1.20E-04	3.18E-05	1.52E-04
non-VOC/non-HAPs	0.11	0.03	0.14

Total VOCs	1.47	0.39	1.85
Total HAPs	0.03	0.006	0.04
Worst Single HAP			0.008 (xylenes)

**Abbreviations**

TOC = Total Organic Compounds  
 CO = Carbon Monoxide  
 PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PM2.5 = Particulate Matter (<2.5 um)  
 HAP = Hazardous Air Pollutant  
 VOC = Volatile Organic Compound

**Methodology**

The asphalt temperature and volatility factor were provided by the source.  
 Limited Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)  
 Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16  
 Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14):  
 Total PM/PM10 Ef = 0.000181 + 0.00141(-V)e<sup>-(0.0251)(T+460)-20.43</sup>  
 Organic PM Ef = 0.00141(-V)e<sup>-(0.0251)(T+460)-20.43</sup>  
 TOC Ef = 0.0172(-V)e<sup>-(0.0251)(T+460)-20.43</sup>  
 CO Ef = 0.00558(-V)e<sup>-(0.0251)(T+460)-20.43</sup>  
 On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32

\*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

**Appendix A.2: Limited Emissions Calculations**  
**Asphalt Load-Out and Yard Emissions (continued)**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

**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)	Load-out	Onsite Yard	Total
<b>PAH HAPs</b>								
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	3.32E-04	NA	3.32E-04
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	3.58E-05	NA	3.58E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	8.95E-05	NA	8.95E-05
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	2.43E-05	NA	2.43E-05
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	9.72E-06	NA	9.72E-06
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	2.81E-06	NA	2.81E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	2.43E-06	NA	2.43E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	2.94E-06	NA	2.94E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	9.97E-06	NA	9.97E-06
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	1.32E-04	NA	1.32E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	4.73E-07	NA	4.73E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	6.39E-05	NA	6.39E-05
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	9.84E-04	NA	9.84E-04
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	6.01E-07	NA	6.01E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	3.04E-03	NA	0.003
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.60E-03	NA	0.002
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	2.81E-05	NA	2.81E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.04E-03	NA	0.001
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	1.92E-04	NA	1.92E-04
<b>Total PAH HAPs</b>						<b>0.008</b>	<b>NA</b>	<b>0.008</b>
<b>Other semi-volatile HAPs</b>								
Phenol		PM/HAP	---	Organic PM	1.18%	1.51E-03	0	1.51E-03

**Abbreviations**

PM = Particulate Matter

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

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

**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

**Appendix A.2: Emissions Calculations**  
**Asphalt Load-Out and Yard Emissions (continued)**

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

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile	Limited Potential to Emit (tons/yr)		
					Load-out and Onsite Yard (% by weight of TOC)	Load-out	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	<b>1.47</b>	<b>0.39</b>	<b>1.85</b>
non-VOC/non-HAPS								
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	1.01E-01	2.68E-02	0.128
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	7.17E-04	1.90E-04	0.001
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.11E-02	2.93E-03	0.014
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>0.114</b>	<b>0.030</b>	<b>0.14</b>
Volatile organic HAPs								
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	8.11E-04	2.15E-04	0.001
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	1.50E-04	3.96E-05	1.89E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	7.64E-04	2.02E-04	9.66E-04
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	2.03E-04	5.36E-05	2.56E-04
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	3.28E-06	8.66E-07	4.14E-06
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	2.34E-04	6.19E-05	2.96E-04
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	1.72E-03	4.54E-04	0.002
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	4.37E-03	1.16E-03	0.006
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	1.37E-03	3.63E-04	0.002
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	2.34E-03	6.19E-04	0.003
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	2.81E-05	7.43E-06	3.55E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0	0	0
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	1.14E-04	3.01E-05	1.44E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	1.20E-04	3.18E-05	1.52E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	3.28E-03	8.66E-04	0.004
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	2.03E-05	5.36E-06	2.56E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	6.39E-03	1.69E-03	0.008
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	1.25E-03	3.30E-04	0.002
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>0.023</b>	<b>0.006</b>	<b>0.030</b>

**Abbreviations**

TOC = Total Organic Compounds

VOC = Volatile Organic Compound

HAP = Hazardous Air Pollutant

MTBE = Methyl tert butyl ether

**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

**Appendix A.2: Limited Emissions Calculations**

**Material Storage Piles**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

Note: Since the emissions from the storage piles are minimal, the limited emissions are equal to the unlimited emissions.

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

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0	0	0
Limestone	1.6	1.85	0	0	0
RAP	0.5	0.58	0.50	0.053	0.018
Gravel	1.6	1.85	0.50	0.169	0.059
Slag	3.8	4.40	0.25	0.201	0.070
Shingles	0.5	0.58	2.00	0.211	0.074
<b>Totals</b>				<b>0.63</b>	<b>0.22</b>

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)                      PTE = Potential to Emit  
 PM2.5 = Particulate Matter (<2.5 um)                      RAP = recycled asphalt pavement

**Methodology**

PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) \* (Maximum Pile Size (acres)) \* (ton/2000 lbs) \* (8760 hours/yr)  
 PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) \* 35%  
 \*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)  
 \*\*Maximum anticipated pile size (acres) provided by the source.

**Notes**

Shingle silt content assumed to be equal to that of RAP based on the source provided specifications of the shingles.  
 PM2.5 = PM10

**Appendix A.2: Limited Emissions Calculations**  
**Material Processing, Handling, Screening, and Conveying**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

**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.

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

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

k (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
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
$E_f$ (PM2.5) =	1.62E-04	lb PM2.5/ton of material handled

Annual Asphalt Production Limitation =	750,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	712,500	tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	0.81	0.38	0.06
Front-end loader dumping of materials into feeder bins	0.81	0.38	0.06
Conveyor dropping material into dryer/mixer or batch tower	0.81	0.38	0.06
<b>Total (tons/yr)</b>	<b>2.42</b>	<b>1.15</b>	<b>0.17</b>

**Methodology**

The percent asphalt cement/binder provided by the source.

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 (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

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

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Screening	0.025	0.0087	8.91	3.10
Conveying	0.003	0.0011	1.07	0.39
<b>Limited Potential to Emit (tons/yr) =</b>			<b>9.98</b>	<b>3.49</b>

**Abbreviations**

PM = Particulate Matter

PM2.5 = Particulate Matter (<2.5 um)

PM10 = Particulate Matter (<10 um)

PTE = Potential to Emit

**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

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).

\*\*Assumes PM10 = PM2.5

**Appendix A.2: Limited Emissions Calculations**  
**Paved Roads**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

**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 =	750,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	712,500	tons/yr
Maximum Asphalt Cement/Binder Throughput =	37,500	tons/yr
No. 2 Fuel Oil Limitation =	2,608,500	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)	15.0	21.6	36.6	3.3E+04	1.2E+06	150	0.028	937.1
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	15.0	0	15.0	3.3E+04	4.9E+05	150	0.028	937.1
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	10.0	18.0	28.0	4.0E+04	1.1E+06	150	0.028	1,124.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	10.0	0	10.0	4.0E+04	4.0E+05	150	0.028	1,124.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	10.0	21.0	31.0	3.4E+04	1.1E+06	150	0.028	963.9
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	10.0	0	10.0	3.4E+04	3.4E+05	150	0.028	963.9
Aggregate/RAP Loader Full	Front-end loader (3 CY)	19.6	4.0	23.6	1.8E+05	4.2E+06	150	0.028	5,060.4
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	19.6	0	19.6	1.8E+05	3.5E+06	150	0.028	5,060.4
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	15.0	20.0	35.0	3.6E+04	1.2E+06	150	0.028	1,012.1
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	15.0	0	15.0	3.6E+04	5.3E+05	150	0.028	1,012.1
<b>Total</b>						<b>6.4E+05</b>	<b>1.4E+07</b>		<b>18,195.9</b>

Average Vehicle Weight Per Trip =	21.97	tons/trip
Average Miles Per Trip =	0.028	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	PM2.5	
where k =	8.2E-02	1.6E-02	2.4E-03	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	22	22	22	tons = average vehicle weight (provided by source)
C =	4.7E-04	4.7E-04	3.6E-04	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	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,  $E_{ext} = E_f * [1 - (p/4N)]$

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	PM2.5	
Unmitigated Emission Factor, $E_f =$	7.4E-01	1.4E-01	2.1E-02	lb/mile
Mitigated Emission Factor, $E_{ext} =$	6.8E-01	1.3E-01	2.0E-02	lb/mile
Dust Control Efficiency =	50%	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)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.3480	0.0677	0.0100	0.3182	0.0619	0.0092	0.1591	0.0310	0.0046
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.3480	0.0677	0.0100	0.3182	0.0619	0.0092	0.1591	0.0310	0.0046
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.4176	0.0813	0.0120	0.3818	0.0743	0.0110	0.1909	0.0372	0.0055
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.4176	0.0813	0.0120	0.3818	0.0743	0.0110	0.1909	0.0372	0.0055
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.3579	0.0697	0.0103	0.3273	0.0637	0.0094	0.1636	0.0318	0.0047
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.3579	0.0697	0.0103	0.3273	0.0637	0.0094	0.1636	0.0318	0.0047
Aggregate/RAP Loader Full	Front-end loader (3 CY)	1.8792	0.3657	0.0541	1.7183	0.3344	0.0495	0.8591	0.1672	0.0247
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	1.8792	0.3657	0.0541	1.7183	0.3344	0.0495	0.8591	0.1672	0.0247
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.3758	0.0731	0.0108	0.3437	0.0669	0.0099	0.1718	0.0334	0.0049
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.3758	0.0731	0.0108	0.3437	0.0669	0.0099	0.1718	0.0334	0.0049
<b>Totals</b>		<b>6.76</b>	<b>1.32</b>	<b>0.19</b>	<b>6.18</b>	<b>1.20</b>	<b>0.18</b>	<b>3.09</b>	<b>0.60</b>	<b>0.09</b>

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PM2.5 = Particulate Matter (<2.5 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)

**Notes**

PM2.5 = PM10

**Appendix A.2: Limited Emissions Calculations**  
**Unpaved Roads**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

**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 =	750,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	712,500	tons/yr
Maximum Asphalt Cement/Binder Throughput =	37,500	tons/yr
No. 2 Fuel Oil Limitation =	2,608,500	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)	0	0	0	0	0	0	0	0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0	0	0	0	0	0	0	0
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0	0	0	0	0	0	0	0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0	0	0	0	0	0	0	0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0	0	0	0	0	0	0	0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0	0	0	0	0	0	0	0
<b>Total</b>					<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Average Vehicle Weight Per Trip = 0 tons/trip  
 Average Miles Per Trip = 0 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	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	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	0.9	= constant (AP-42 Table 13.2.2-2)
W =	0.0	0.0	0.0	tons = average vehicle weight (provided by source)
b =	0.45	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	PM2.5	
Unmitigated Emission Factor, $E_f$ =	0	0	0	lb/mile
Mitigated Emission Factor, $E_{ext}$ =	0	0	0	lb/mile
Dust Control Efficiency =	50%	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)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0	0	0	0	0	0	0	0	0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0	0	0	0	0	0	0	0	0
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0	0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0	0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0	0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0	0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0	0	0	0	0	0	0	0	0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0	0	0	0	0	0	0	0	0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0	0	0	0	0	0	0	0	0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0	0	0	0	0	0	0	0	0
<b>Totals</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 PM2.5 = Particulate Matter (<2.5 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)

**Notes**

PM2.5 = PM10

**Appendix A.2: Limited Emissions Calculations  
Cold Mix Asphalt Production and Stockpiles**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

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 =  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)	Liquid Binder Adjustment Ratio
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	71.58	68.00	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	97.14	68.00	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	272.00	68.00	4.000
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	146.55	68.00	2.155
Other asphalt with solvent binder	25.9%	2.5%	2,720.00	68.00	40.0
<b>Worst Case Limited PTE of VOC =</b>				<b>68.00</b>	

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =		26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =		9.0% Xylenes
<b>Limited PTE of Total HAPs (tons/yr) =</b>		<b>17.74</b>
<b>Limited PTE of Single HAP (tons/yr) =</b>		<b>6.12 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>

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**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: <http://www.aehs.com/publications/catalog/contents/tp.htm>

**Appendix A.2: Limited Emissions Calculations  
Gasoline Fuel Transfer and Dispensing Operation**

**Company Name:** Dave O'Mara Contractor, Inc. - Plant #8  
**Address City IN Zip:** 610 Base Road, Hayden, IN 47245  
**FESOP Renewal No:** F079-27815-05269  
**Reviewer:** Hannah L. Desrosiers  
**Date Submitted:** April 21, 2009

Note: Since the emissions from the gasoline fuel transfer and dispensing operation are minimal, the limited emissions are equal to the unlimited emissions.

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling emission factors from AP-42 Table 5.2-7 were used. The total potential emission of VOC is as follows:

$$\begin{aligned} \text{Gasoline Throughput} &= 0 \text{ gallons/day} \\ &= 0 \text{ kgal/yr} \end{aligned}$$

**Volatile Organic Compounds**

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0
Tank breathing and emptying	1.0	0
Vehicle refueling (displaced losses - controlled)	1.1	0
Spillage	0.7	0
<b>Total</b>		<b>0</b>

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	0	
Worst Case Single HAP Content of VOC solvent (weight %)* =	0	Xylenes
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>0</b>	
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>0</b>	<b>Xylenes</b>

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Methodology**

The gasoline throughput was provided by the source.

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

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

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

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

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



# 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)

## SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

**TO:** Amy Boswell  
Dave OMara Contractor, Inc. - Plant 8  
1100 E O&M Ave  
N Vernon, IN 47265

**DATE:** August 10, 2010

**FROM:** Matt Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

**SUBJECT:** Final Decision  
FESOP  
079-27815-05269

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:  
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at [jbrush@idem.IN.gov](mailto:jbrush@idem.IN.gov).

Final Applicant Cover letter.dot 11/30/07



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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[www.idem.IN.gov](http://www.idem.IN.gov)

August 10, 2010

TO: Jennings County Public Library

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

Subject: **Important Information for Display Regarding a Final Determination**

**Applicant Name: Dave O'Mara Contractor, Inc.**  
**Permit Number: 079-27815-05269**

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures  
Final Library.dot 11/30/07

# Mail Code 61-53

IDEM Staff	CDENNY 8/10/2010 Dave OMara Contractor, Inc. - Plant 8 079-27815-05269 (final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	 Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail:  <b>CERTIFICATE OF MAILING ONLY</b>	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Amy Boswell Dave OMara Contractor, Inc. - Plant 8 1100 E O&M Ave N Vernon IN 47265 (Source CAATS)										
2		Jennings Co Public Library 2375 N. State Hwy 3 North Vernon IN 47265-7483 (Library)										
3		Jennings County Commissioners Jennings County Courthouse Vernon IN 47282 (Local Official)										
4		Jennings County Health Department 200 E. Brown St, Courthouse Annex, P.O. Box 323 Vernon IN 47282-0323 (Health Department)										
5		Mr. Mack Overton Astbury Environmental Engineering 5757 W 74th St Indianapolis IN 46278 (Consultant)										
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