



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

TO: Interested Parties / Applicant

DATE: January 12, 2012

RE: Dave O'Mara Contractor, Inc. / 027-30947-05227

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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January 12, 2012

Ms. Amy Boswell
Dave O'Mara Contractor, Inc.
1100 E. O & M Avenue
North Vernon, IN 47265

Re: F027-30947-05227
First Significant Revision to
FESOP No. F055-25301-05227

Dear Ms. Boswell:

Dave O'Mara Contractor, Inc., Plant #7 was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F055-25301-05227 on April 29, 2008 for a portable hot drum mix asphalt manufacturing facility located at Harris City Stone Company, 24031 Derbyshire Rd, Laurel, Indiana, 47024, Franklin County. On September 21, 2011, the Office of Air Quality (OAQ) received an application from the source requesting relocation to 5883 E SR 58, Elnora, IN 47529, in Daviess County. During the review, IDEM determined that the for the source to remain in compliance with Prevention of Significant Deterioration (PSD) requirements for PM2.5 emissions, PM2.5 limits would need to be included in the permit. Additionally, Greenhouse gas emissions were calculated, and the applicability of several new NESHAPs reviewed. The attached Technical Support Document (TSD) provides additional explanation of the changes to the source/permit. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

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

Approval for relocation is hereby granted to operate the portable hot drum mix asphalt manufacturing facility described in FESOP Renewal No. F055-25301-05227, issued on April 29, 2008. This source is to be located at 5883 E SR 58, Elnora, IN 47529, in Daviess County. This plant was previously located at Harris City Stone Company, 24031 Derbyshire Rd, Laurel, Indiana, 47024, Franklin County, and the site approval was issued on March 31, 2011.

Relocation of this plant must take place within 120 days after the issuance of this decision. This approval supersedes all previous site approval letters.

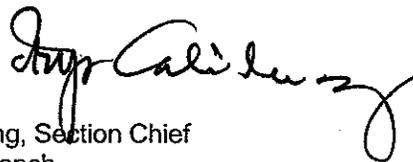
Advance written notice to the Office of Air Quality (OAQ), Compliance and Enforcement Branch, of start-up is required in order for the OAQ to perform an inspection. The notification shall be submitted to:

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

If the plant is not operating in compliance with all applicable regulations upon inspection, the plant must cease operation upon notification to you by OAQ staff of such non-compliance. Operations may only resume once remedial actions have been taken and approved by the OAQ.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions concerning this relocation site approval and permit revision, please contact Hannah Desrosiers, of my staff, at 317-234-5374 or 1-800-451-6027, and ask for extension 4-5374.

Sincerely,



Iryn Calitung, Section Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Document and revised permit

IC/hd

cc: File - Daviess County
Daviess County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
Billing, Licensing, and Training Section



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Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

Dave O'Mara Contractor, Inc., Plant #7 Portable

(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.: F055-25301-05227	
Original Signed by: Chrystal A. Wagner, Section Chief Permits Branch Office of Air Quality	Issuance Date: April 29, 2008 Expiration Date: April 29, 2018

First Relocation No. 117-26902-05227, issued on September 9, 2008.
Second Relocation No. 055-27746-05227, issued on May 1, 2009.
Third Relocation No. 145-28888-05227, issued on February 3, 2010
Fourth Relocation No. 109-29530-05227, issued on August 19, 2010
Fifth Relocation No. 047-30212-05227, issued on March 31, 2011

First Significant Permit Revision No.: F055-30947-05227	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: January 12, 2012 Expiration Date: April 29, 2018

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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 portable hot drum mix asphalt manufacturing facility.

Initial Source Address:	RR#1, Box 60-A, CR 475 West, Switz City Indiana 47465
General Source Phone Number:	812-346-4135
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
Initial County Location:	Greene
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD 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)]

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

- (a) One (1) portable asphalt drum-mix plant, with a maximum capacity of 300 tons of asphalt per hour, equipped with one (1) No. 2 fuel oil fired aggregate dryer burner with a maximum rated capacity of 72 million British thermal units (MMBtu) per hour, using natural gas or No. 4 fuel oil as a back up fuel, and one (1) baghouse for particulate control, exhausting at one (1) stack, identified as #1.

Under NSPS Subpart I, this asphalt plant is considered an affected facility;

- (b) five (5) compartment cold feed bins with feeders and collection conveyors;
- (c) one (1) 30" incline conveyor with a 4' X 10' scalping screen;
- (d) two (2) conveyors and one (1) screen to transfer aggregate from recycle bin to asphalt dryer;
- (e) one (1) conveyor and one (1) hot elevator to transfer product from asphalt dryer to storage silo;
- (f) cold-mix (stockpile mix) asphalt storage piles;
- (g) one (1) 20,000-gallon asphalt storage tank;
- (h) one (1) 15,000-gallon No. 2 fuel oil storage tank; and
- (i) one (1) 18,000-gallon No. 4 fuel oil storage tank.

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

This portable source also includes the following insignificant activities:

- (a) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]
- (b) Other categories with emissions below insignificant thresholds:
 - (1) One (1) No. 2 fuel-oil fired hot oil heater with a rated capacity of 1.2 MMBtu/hr; and
 - (2) Aggregate storage piles with a total storage capacity of 12,500 tons. [326 IAC 6-5]

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

This portable 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, F055-25301-05227, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

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

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

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

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

B.5 Severability [326 IAC 2-8-4(4)]

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(1)]

- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:

- (i) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
 - (ii) 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]

- (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 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]

- (a) All terms and conditions of permits established prior to F055-25301-05227 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)]

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 Reserved

**B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]**

- (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.17 Permit Renewal [326 IAC 2-8-3(h)]

- (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.18 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
- (c) 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.19 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.20 Source Modification Requirement [326 IAC 2-8-11.1]

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

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

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

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

The application which shall be submitted by the Permittee does require 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.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

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

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

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

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM) and greenhouse gases (GHGs), 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.
- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period.

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

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

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

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (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 plan submitted on February 25, 2003. The plan is included as 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 by using ambient air quality modeling pursuant to 326 IAC 1-7-4.

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 demolition starts 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 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 Accredited Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

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

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

- (a) 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 by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

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

C.13 Reserved

C.14 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

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

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

C.15 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 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 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 responses 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.

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 no later than thirty (30) days of 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) Reserved
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

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

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

Portable Source Requirements

C.21 Relocation of Portable Sources [326 IAC 2-14-4]

(a) Pursuant to 2-14-4 (Relocation), a portable source, operation, process, or emissions unit that has been issued a valid operating permit under this article may be issued an approval letter for relocation that authorizes operation of the source, operation, process, or emissions unit as follows:

- (1) The source submits a notification at least thirty (30) days prior to relocation.
- (2) The commissioner shall approve or deny the relocation within thirty (30) days of receipt of the notification of the proposed relocation.
- (3) The application submitted for a permit revision in accordance with 326 IAC 2-6.1-6, 326 IAC 2-7-12, or 326 IAC 2-8-11.1 shall satisfy the notification requirements of this section.

The commissioner shall not approve a relocation of a portable source, operation, process, or emissions unit, if the following applies:

- (1) The relocation would allow a violation of the national ambient air quality standards (NAAQS).
 - (2) The relocation would allow a violation of a prevention of significant deterioration (PSD) maximum allowable increase.
 - (3) The source is not in compliance with all applicable air pollution control rules.
 - (4) The relocation would adversely affect the public health.
- (b) This permit is approved for operation in all areas of Indiana except in severe nonattainment areas for ozone (at the time of this permit's issuance these areas were Lake and Porter Counties). This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2, and Emission Offset requirements in 326 IAC 2-3. Prior to locating in any severe nonattainment area, the Permittee must submit a request and obtain a permit modification.
- (c) A request to relocate shall be submitted to IDEM, OAQ at least thirty (30) days prior to the intended date of relocation. This submittal shall include the following:
- (1) A list of governmental officials entitled to receive notice of application to relocate. IC 13-15-3-1
 - (2) A list of adjacent landowners that the Permittee will send written notice to not more than ten (10) days after submission of the request to relocate. IC 13-15-8
 - (3) The new location address of the portable source.

- (4) Whether or not this portable source will be relocated to another source.
- (5) If relocating to another source:
 - (A) Name, location address, and permit number of the source this portable source is relocating to.
 - (B) Whether or not the sources will be considered as one source. See Non Rule Policy (NRP) Air-005 and Air-006.
- (6) If the sources will be considered as one source, whether or not the source to be relocated to has received the necessary approvals from IDEM to allow the relocation.

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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (d) A "Relocation Site Approval" letter shall be obtained prior to relocating.
- (e) A valid operation permit consists of this document and any subsequent "Relocation Site Approval" letter specifying the current location of the portable plant.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) portable asphalt drum-mix plant, with a maximum capacity of 300 tons of asphalt per hour, equipped with one (1) No. 2 fuel oil fired aggregate dryer burner with a maximum rated capacity of 72 million British thermal units (MMBtu) per hour, using natural gas or No. 4 fuel oil as a back up fuel, and one (1) baghouse for particulate control, exhausting at one (1) stack, identified as #1. Under NSPS Subpart I, this asphalt plant is considered an affected facility;
- (b) five (5) compartment cold feed bins with feeders and collection conveyors;
- (c) one (1) 30" incline conveyor with a 4' X 10' scalping screen;
- (d) two (2) conveyors and one (1) screen to transfer aggregate from recycle bin to asphalt dryer; and
- (e) one (1) conveyor and one (1) hot elevator to transfer product from asphalt dryer to storage silo.

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

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

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

- (a) The asphalt production shall be limited to 1,560,000 tons per twelve (12) consecutive month period and 0.225 pounds of PM per ton of asphalt produced. The PM emissions for the whole source are therefore limited to less than 250 tons per year, and 326 IAC 2-2 does not apply.

D.1.2 Particulate Matter Less than Ten Microns (PM₁₀) [326 IAC 2-8-4]

- (a) The asphalt production shall be limited to 1,560,000 tons per twelve (12) consecutive month period and 0.098 pounds of PM₁₀ per ton of asphalt produced. The PM₁₀ emissions for the whole source are therefore limited to less than 100 tons per year, and 326 IAC 2-7 does not apply.

D.1.3 Particulate Matter Less than Two and Five Tenths Microns (PM_{2.5}) [326 IAC 2-8-4][326 IAC 2-2]

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

- (a) The asphalt production rate shall not exceed 1,560,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) PM_{2.5} emissions from the dryer/mixer shall not exceed 0.098 pounds of PM_{2.5} per ton of asphalt produced.

Compliance with these limits, combined with the potential to emit PM_{2.5} from all other emission units at this source, shall limit the source-wide total potential to emit of PM_{2.5} to less than 100 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-1.1-5 (Nonattainment New Source Review), not applicable.

D.1.4 Sulfur Dioxide (SO₂) [326 IAC 2-8-4] [326 IAC 7-1.1]

- (a) Pursuant to the requirements of 326 IAC 7-1.1, the sulfur content of the distillate oil (No. 2 and No. 4 fuel oil) used in the aggregate dryer burner shall not exceed 0.5 pounds per MMBtu.
- (b) The sulfur content of the No. 2 fuel oil shall not exceed 0.05% by weight.
- (c) The sulfur content of the No. 4 fuel oil shall not exceed 0.41% by weight. The use of No. 4 fuel oil shall be limited to less than 813,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) For the purposes of determining compliance, each 8,662 gallons of No.2 fuel oil shall be equivalent to 1,000 gallons of No.4 fuel oil.

Compliance with the above limits the SO₂ emissions for the whole source to less than 100 tons per year and makes 326 IAC 2-7 not applicable.

D.1.5 Volatile Organic Compounds (VOC) [326 IAC 2-8-4] [326 IAC 8-1-6]

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

- (1) The asphalt production rate shall not exceed 1,560,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.

Compliance with these limits, combined with the potential to emit VOCs from all other emission units at this source, shall limit the source-wide total potential to emit of VOCs to less than 100 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).

Additionally, compliance with the limits contained in this condition shall limit the VOC emissions from the 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.1.6 Carbon Monoxide (CO) [326 IAC 2-8-4]

The asphalt production shall be limited to 1,560,000 tons per twelve (12) consecutive month period and the CO emissions shall be limited to less than 0.120 pounds of CO per ton of asphalt produced. The CO emissions for the whole source are therefore limited to less than 100 tons per year and 326 IAC 2-7 does not apply.

D.1.7 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for this facility and its control device. 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.1.8 Testing Requirements [326 IAC 2-1.1-11]

- (a) In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM testing of the dryer/mixer not later than five (5) years from the most recent valid compliance demonstration. This testing shall be conducted utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in

accordance with 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 and D.1.3(b), the Permittee shall perform PM10 and PM2.5 testing of the dryer/mixer not later than five (5) years from the most recent valid compliance demonstration. This testing shall be conducted utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with 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 includes filterable and condensable PM.

D.1.9 Particulate Matter (PM/PM10/PM2.5)

The baghouse shall be in operation at all times the aggregate dryer burner is in operation, in order to comply with Conditions D.1.1, D.1.2, and D.1.3.

D.1.10 Sulfur Dioxide Emissions and Sulfur Content

Compliance shall be determined utilizing one of the following options:

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million Btu heat input and 0.05% sulfur content when burning No. 2 fuel oil by:
- (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 72 MMBtu per hour burner for the aggregate dryer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

- (c) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed 0.5 pounds per million Btu heat input and 0.41% sulfur content when burning No. 4 fuel oil by:
- (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

- (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (d) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 72 MMBtu per hour burner for the aggregate dryer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

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

D.1.11 Visible Emissions Notations

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

D.1.12 Baghouse Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the aggregate dryer burner, at least once per day when the aggregate dryer burner is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions and Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.
- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.1.13 Broken or Failed Bag Detection

- (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 aggregate dryer burner. 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 pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

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

D.1.14 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.4, the Permittee shall maintain records in accordance with (1) through (3) below. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

(1) A certification, signed by the owner or operator, that the records of the fuel oil supplier certifications represent all of the fuel combusted during the period; and

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

(2) The name of the fuel supplier; and

(3) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

(b) To document the compliance status with Conditions D.1.4(c), the Permittee shall keep records of the amount of No. 4 fuel oil used at the aggregate dryer burner. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.

(c) To document the compliance status with Conditions D.1.1, D.1.2, D.1.3, D.1.5, and D.1.6, the Permittee shall keep records of the amount of asphalt processed through the aggregate dryer burner. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.

(d) The Permittee shall maintain records sufficient to verify compliance with the procedures specified in condition D.1.10. Records shall be maintained for a period of five (5) years and shall be made available upon request by IDEM.

(e) To document the compliance status with Condition D.1.11, the Permittee shall maintain records of the daily visible emission notations of the drum mix dryer burner baghouse stack exhaust, conveyors, and transfer points. 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 (i.e., the process did not operate that day).

(f) To document the compliance status with Condition D.1.12, the Permittee shall maintain daily records of the pressure drop during normal operation. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of pressure drop reading (i.e., the process did not operate that day).

Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.15 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.1, D.1.2, D.1.3, D.1.4(c), D.1.5, and D.1.6, shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

D.1.16 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

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

D.1.17 NSPS Subpart I Requirements [40 CFR Part 60, Subpart I] [326 IAC 12]

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

§ 60.91 Definitions

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

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

§ 60.92 Standard for particulate matter

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

- (1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).
- (2) Exhibit 20 percent opacity, or greater.

§ 60.93 Test methods and procedures

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

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

- (1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).
- (2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Cold-mix (stockpile mix) asphalt storage piles

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

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

D.2.1 Volatile Organic Compounds (VOC) [326 IAC 2-2] [326 IAC 2-8-4]

The Permittee shall limit the emissions of VOC from cold mix asphalt production to not exceed sixty (60) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limit combined with the potential emissions from all other emission units at this source shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD) not applicable.

D.2.2 Volatile Organic Compounds (VOC)

- (a) Liquid binders used in the production of cold mix asphalt shall be defined as follows:

- (1) Cut back asphalt rapid cure, containing a maximum of 25.3% of the liquid binder by weight of VOC solvent and 95% by weight of VOC solvent evaporating.
- (2) Cut back asphalt medium cure, containing a maximum of 28.6% of the liquid binder by weight of VOC solvent and 70% by weight of VOC solvent evaporating.
- (3) Cut back asphalt slow cure, containing a maximum of 20% of the liquid binder by weight of VOC solvent and 25% by weight of VOC solvent evaporating.
- (4) Emulsified asphalt with solvent, containing a maximum of 15% of liquid binder by weight of VOC solvent and 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
- (5) Other asphalt with solvent binder, containing a maximum 25.9% of the liquid binder of VOC solvent and 2.5% by weight of the VOC solvent evaporating

- (b) The liquid binder used in cold mix asphalt production shall be limited as follows:

- (1) The amount of VOC solvent used in rapid cure cutback asphalt shall be limited to less than 63.2 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) The amount of VOC solvent used in medium cure cutback asphalt shall be limited to less than 85.7 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (3) The amount of VOC solvent used in slow cure cutback asphalt shall be limited to less than 240.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (4) The amount of VOC solvent used in emulsified asphalt shall be limited to less than 129.3 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (5) The amount of VOC solvent used in all other asphalt shall be limited to less than 2,400 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

When more than one type of binder is used per twelve (12) consecutive month period, the total usage of all binders shall be limited so that the total potential to emit VOC is less than 60 tons 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 year for each type of binder, use the following formula and divide the tons of VOC solvent used per year for each type of binder by the corresponding adjustment ratio listed in the table that follows.

$$\text{VOC emitted (tons/yr)} = \frac{\text{VOC solvent used for each binder (tons/yr)}}{\text{Adjustment ratio}}$$

Type of binder	tons solvent	adjustment ratio	tons VOC emitted
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	

This will limit the potential to emit VOC from cutback and emulsified asphalt usage to less than 60 tons per year, and the total source potential to emit VOC to less than 100 tons per year, including the heater, the aggregate dryer burner, storage, silo filling, and load out. Thus, the requirements of 326 IAC 2-2, PSD, and 326 IAC 2-7, Part 70, do not apply with respect to VOC emissions.

D.2.3 Volatile Organic Compound Rules for Asphalt Pavers [326 IAC 8-5-2]

Pursuant to 326 IAC 8-5-2, Volatile Organic Compound Rules for Asphalt Pavers, the cutback asphalt or asphalt emulsions produced by the source shall not contain more than seven percent (7%) oil distillate by volume of emulsion as determined by ASTM D244-80a "Emulsific Asphalts" ASTM part 15, 1981 ASTM 1916 Race St., Philadelphia, PA 19103, Library of Congress Card Catalog #40-10712, for any paving application except as used for 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.2.4 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.1 Volatile Organic Compounds, VOC records shall document VOC usage as follows:

- (1) Amount and type of liquid binder used in the production of cold mix asphalt each day.
- (2) Type and VOC, solvent content by weight of the liquid binder used in the production of cold mix asphalt each day.
- (3) Amount of VOC, solvent used in the production of cold mix asphalt each day.

Records 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.

D.2.5 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.2.1 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. 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 meet the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

Source Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
FESOP Permit No.: F055-25301-05227

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 #7
Source Address: Portable
FESOP Permit No.: F055-25301-05227

This form consists of 2 pages

Page 1 of 2

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|--|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)
The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance and Enforcement Branch); and</p> <ul style="list-style-type: none">• 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 |
|--|

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 ₂ , VOC, NO _x , 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 - Hot Mix Asphalt Production

Source Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
FESOP Permit No.: F055-25301-05227
Facility: One (1) portable asphalt drum-mix plant with one (1) baghouse exhausting at one (1) stack, identified as #1;
Parameter: Hot mix asphalt production
Limit: 1,560,000 tons per twelve (12) consecutive month period.

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 - No. 4 Fuel Oil Usage

Source Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
FESOP Permit No.: F055-25301-05227
Facility: One (1) portable asphalt drum-mix plant with one (1) baghouse exhausting at one (1) stack, identified as #1;
Parameter: No. 4 fuel oil usage
Limit: Less than 813,000 gallons per twelve (12) consecutive month period. For the purposes of determining compliance, each 8,662 gallons of No.2 fuel oil shall be equivalent to 1,000 gallons of No.4 fuel oil.

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 - No. 2/No.4 Fuel Oil Sulfur Content

Source Name: Dave O'Mara Contractor, Inc., Plant #7
 Source Address: Portable
 FESOP Permit No.: F055-25301-05227
 Facility: One (1) portable asphalt drum-mix plant with one (1) baghouse exhausting at one (1) stack, identified as #1;
 Parameter: Fuel oil sulfur content
 Limit: The maximum sulfur content of the No. 2 fuel oil shall be limited to 0.05% and the maximum sulfur content of the No. 4 fuel oil shall be limited to 0.41%.

Month: _____ Year: _____

Date of Fuel Oil Delivery	Sulfur Content of No. 2/No.4 Fuel Oil	Date of Fuel Oil Delivery	Sulfur Content of No. 2/No.4 Fuel Oil
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16			

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

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Phone: _____

Date: _____
 Date: _____
 Date: _____
 Date: _____

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

FESOP Quarterly Report - Single Liquid Binder VOC Solvent

Source Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
FESOP Permit No.: F055-25301-05227
Facility: Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles
Parameter: Cutback or emulsified asphalt VOC solvent usage
Limit: Rapid cure liquid binder limited to 63.2 tons VOC solvent; medium cure liquid binder limited to 85.7 tons VOC solvent; slow cure liquid binder limited to 240.0 tons VOC solvent; emulsified asphalt limited to 129.3 tons VOC solvent; and/or other asphalt with solvent liquid binder limited to 2,400 tons VOC solvent per twelve (12) consecutive month period

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**

Multiple Liquid Binder Solvent Quarterly Report

Source Name: Dave O'Mara Contractor, Inc., Plant #7
 Source Address: Portable
 FESOP Permit No.: F055-25301-05227
 Facility: Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles
 Parameter: VOC usage, rapid cure equivalent
 Limit: 63.2 tons per consecutive 12-month period
 Current Year: _____

Month	Type of Liquid binder	Solvent Usage This Month (tons)	Divisor	VOC emitted This Month (tons) for each solvent	VOC emitted This Month (tons)	VOC emitted Previous 11 Months (tons)	This month + Previous 11 months =VOC emitted 12 Month Total (tons)
Month 1	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				
Month 2	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				
Month 3	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				

- 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 and ENFORCEMENT BRANCH**

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)

QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
FESOP Permit No.: F055-25301-05227

Months: _____ to _____ Year: _____

Page 1 of 2

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".

NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

ATTACHMENT A

ASPHALT PLANT SITE FUGITIVE DUST CONTROL PLAN

Fugitive particulate matter emissions from paved roads, unpaved roads, and parking lots shall be controlled by one or more of the following methods:

Paved roads and parking lots:

- (1) cleaning by vacuum sweeping on an as needed basis (monthly at a minimum)
- (2) power brooming while wet either from rain or application of water.

Unpaved roads and parking lots:

- (1) paving with asphalt;
- (2) treating with emulsified asphalt;
- (3) watering;
- (4) double chip and seal the road surface.

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.

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.

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.

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.

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.

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

Addendum to the Technical Support Document (ATSD) for a
Significant Permit Revision to a
Federally Enforceable State Operating Permit (FESOP)

Source Background and Description

Source Name:	Dave O'Mara Contractor, Inc., Plant #7
Future/Pending Source Location:	5883 E SR 58, Elnora, IN 47529
County:	Daviess
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
Operation Permit No.:	F027-25301-05227
Operation Permit Issuance Date:	April 29, 2008
(Minor, Significant) Permit Revision No.:	F027-30947-05227
Permit Reviewer:	Hannah L. Desrosiers

On December 9, 2011, the Office of Air Quality (OAQ) had a notice published in Washington Times Herald, Washington, Indiana, stating that Dave O'Mara Contractor, Inc., Plant #7 had applied to relocate their existing portable hot drum mix asphalt manufacturing facility to 5883 E SR 58, Elnora, IN 47529, Daviess County. The notice also stated that the OAQ proposed to issue a FESOP Significant Permit Revision for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

No comments were received during the public notice period.

Additional Changes

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will contain the changes documented in this ATSD.

IDEM, OAQ has decided to make additional revisions to the permit, as described, as follows:

It has come to IDEM's attention that although this existing source is an area source of hazardous air pollutants (HAP), as defined in §63.2, and the 1.2 MMBtu/hr hot oil heater fires No. 2 fuel oil, it does not meet the definition of a boiler, as defined in §63.11237, since heat transfer oil and not water is used as the indirect heating media. Therefore the requirements of 40 CFR 63, Subpart JJJJJJ (6J) (National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources), have been removed from the permit. Additionally, the courtesy copy of the Area Source Boiler Rule, included as Attachment B to the permit, is deleted.

The Permit has been revised as follows, with deleted language shown as ~~strikeouts~~ and new language **bolded**. Permit conditions have been renumbered as needed to accommodate the above-listed revisions.

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

This portable source also includes the following insignificant activities:

(b) Other categories with emissions below insignificant thresholds:

- (1) One (1) No. 2 fuel-oil fired hot oil heater with a rated capacity of 1.2 MMBtu/hr; **[326 IAC 6-2]** and

~~Under 40 CFR 63, Subpart JJJJJ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, this is considered an affected facility.~~

SECTION E.1 NESHAP REQUIREMENTS

Emissions Unit Description: Boilers (Hot Oil Heater)

- ~~(1) One (1) No. 2 fuel-oil fired hot oil heater with a rated capacity of 1.2 MMBtu/hr; and~~

~~Under 40 CFR 63, Subpart JJJJJ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, this is considered an affected facility.~~

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

National Emission Standards for Hazardous Air Pollutants (NESHAPs) Requirements [326 IAC 2-8-4(1)]

~~E.1.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]~~

- ~~(a) Pursuant to §63.11130, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 8 of 40 CFR Part 63, Subpart JJJJJ, and in accordance with the schedule in 40 CFR 63 Subpart JJJJJ.~~

- ~~(b) Pursuant to 40 CFR 63.12, the Permittee shall submit all required notifications and reports 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~~

~~E.1.2 National Emission Standards for Hazardous Air Pollutants (NESHAPs): Area Source Standards for Industrial, Commercial, and Institutional Boilers Area Sources [40 CFR 63, Subpart JJJJJ] [326 IAC 20]~~

~~Pursuant to 40 CFR § 63.11112(a), the emission sources to which this subpart applies are each new, reconstructed, or existing industrial, commercial, and/or institutional boiler within a subcategory (coal, biomass, oil), as listed in §63.11200 and defined in §63.11237, located at an area source.~~

~~The 1.2 MMBtu/hr No. 2 fuel-oil fired hot oil heater is therefore subject to the following portions of Subpart JJJJJ (6J) (included as Attachment B of this permit):~~

- | | |
|---|--|
| (A) 40 CFR 63.11193; | (I) 40 CFR 63.11223(a),(b)(1)-(7); |
| (B) 40 CFR 63.11194(a)(1),(b),(c); | (J) 40 CFR 63.11225(a),(b),(c),(d),(g); |
| (C) 40 CFR 63.11196(a)(1); | (K) 40 CFR 63.11235 |
| (D) 40 CFR 63.11200; | (L) 40 CFR 63.11236 |
| (E) 40 CFR 63.11201(b),(d); | (M) 40 CFR 63.11237 |
| (F) 40 CFR 63.11205(a); | (N) Table 2 |
| (G) 40 CFR 63.11210(c); | (O) Table 8 |
| (H) 40 CFR 63.11214(b); | |

No other changes have been made to the permit.

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.in.gov/idem

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

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

Source Description and Location

Source Name:	Dave O'Mara Contractor, Inc., Plant #7
Future/Pending Source Location:	5883 E SR 58, Elnora, IN 47529
County:	Daviess
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
Operation Permit No.:	F027-25301-05227
Operation Permit Issuance Date:	April 29, 2008
(Minor, Significant) Permit Revision No.:	F027-30947-05227
Permit Reviewer:	Hannah L. Desrosiers

On September 21, 2011, the Office of Air Quality (OAQ) received an application from Dave O'Mara Contractor, Inc., Plant #7 related to relocation for an existing portable hot drum mix asphalt manufacturing facility.

Portable Source

- (a) Initial Location
This is a portable source and its initial location was RR#1, Box 60-A, CR 475 West, Switz City, Indiana, 47465, Greene County.
- (b) Current Location
This portable source is currently located at Harris City Stone Company, 24031 Derbyshire Rd, Laurel, Indiana, 47024, Franklin County.
- (c) Future/Pending Location
This portable source has requested authorization to relocate to 5883 E SR 58, Elnora, IN 47529, Daviess County.
- (d) PSD and Emission Offset Requirements
The emissions from this portable source were reviewed under the requirements of the Prevention of Significant Deterioration (PSD) 326 IAC 2-2 and Emission Offset 326 IAC 2-3.
- (e) Relocation Locations
The Permittee is authorized to relocate this portable hot drum mix asphalt manufacturing facility to all areas of the state except for those designated as severe nonattainment for ozone.

Source Definition

A source determination is not required for the new location since Dave O'Mara Contractor, Inc. has no other asphalt manufacturing facility, or any support facilities, at the same address, or on contiguous or adjacent properties, and there are no other similar and/or support facilities located in the area.

Existing Approvals

The source was issued FESOP Renewal No. F055-25301-05227 on April 29, 2008. The source has since received the following approvals:

- (a) First Relocation No. 117-26902-05227, issued on September 9, 2008;

- (b) Second Relocation No. 055-27746-05227, issued on May 1, 2009;
- (c) Third Relocation No. 145-28888-05227, issued on February 3, 2011;
- (d) Fourth Relocation No. 109-29530-05227, issued on August 19, 2010; and
- (e) Fifth Relocation No. 047-30212-05227, issued on March 31, 2011.

County Attainment Status

The source will be relocated to Daviess County. The following attainment status designations are applicable to Daviess County:

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
PM _{2.5}	Unclassifiable or attainment effective April 5, 2005.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.

¹Unclassifiable 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 (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Daviess County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM_{2.5}

Daviess County has been classified as attainment for PM_{2.5}. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM_{2.5} significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct PM_{2.5} and SO₂ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants

Daviess 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.

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 are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Status of the Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed revision, after consideration of all enforceable limits established in the effective permits:

Potential To Emit of the Entire Source Prior to Revision (tons/year)							
Process/emission unit	PM	PM-10	SO₂	VOC	CO	NO_x	HAPs
Aggregate dryer burner	175.50	76.44	45.24	24.96	93.60	88.34	8.15
Load-out, silo filling, on-site yard	0.86	0.86	-	13.36	2.25	-	0.22
Material processing & handling	5.04	2.38	-	-	-	-	-
Material crushing, screening & conveying	24.75	9.04	-	-	-	-	-
Storage tanks	-	-	-	negl.	-	-	negl.
Cold mix asphalt production	-	-	-	60	-	-	15.65
Insignificant activities	41.45	10.72	negl.	0.06	2.70	negl.	0.06
Total Emissions	247.60	99.44	45.24	98.38	98.55	88.34	24.08
Title V Major Source Thresholds	NA	100	100	100	100	100	10/25
PSD Major Source Thresholds	250	250	250	250	250	250	NA
Emission Offset/Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA
Note(s):							
This table was taken directly from the TSD for FESOP Renewal No. F055-25301-05227 (<i>Potential to Emit After Issuance Section, page 5 of 13</i>), and only the formatting has been modified slightly for clarity. IDEM was not required to quantify PM2.5 or Greenhouse Gas emissions at the time of issuance.							
negl. = negligible NA = Not applicable							
(1) Maximum allowable emissions in order to comply with 326 IAC 2-2 (PSD).							
(2) Maximum allowable emissions in order to comply with 326 IAC 2-8 (FESOP).							

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (c) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the Permittee accepted limits on HAPs emissions 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, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Dave O'Mara Contractor, Inc., Plant #7 on September 21, 2011, relating to the relocation of their existing portable hot drum mix asphalt manufacturing facility. This source is to be located at 5883 E SR 58, Elnora, IN 47529, in Daviess County. This plant was previously located at Harris City Stone Company, 24031 Derbyshire Rd, Laurel, Indiana, 47024, in Franklin County, and the site approval was issued on March 31, 2011.

Since Dave O'Mara Contractor, Inc. does not own and/or operate any other sources at the new location, IDEM has determined that a source determination is not required as a part of this review.

Furthermore, IDEM, OAQ has decided to make additional revisions to the permit as described below in order to update the language to match the most current version of the applicable rule, to eliminate redundancy within the permit, and to provide clarification regarding the requirements of these conditions.

- 1.] The permit and reporting forms have been revised to remove all references to the source mailing address. IDEM, OAQ will continue to maintain records of the mailing address.
- 2.] PM2.5 emissions have been calculated for all applicable units in compliance with the May 8, 2008 promulgation of Prevention of Significant Deterioration (PSD) requirements for PM2.5 emissions. PM2.5 limits have been added to the permit as necessary to ensure that PM2.5 emissions from the entire source are less than the Title V major source threshold of one hundred (100) tons per year, in order that the source may preserve its FESOP status.

Note: this is a new requirement to the source. This is a Title I change.

- 3.] A new FESOP (lb/ton) limit for VOC has been added to the permit in order to ensure compliance with the one hundred (100) ton per year FESOP threshold, 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.

Note: this is a new requirement for this source. This is a Title I change.

- 4.] Pursuant to 326 IAC 2-7-1(39), starting July 1, 2011, greenhouse gases (GHGs) emissions are subject to regulation at a source with a potential to emit 100,000 tons per year or more of CO2 equivalent emissions (CO2e). Therefore, CO2e emissions have been calculated for this source (see TSD Appendix A for detailed calculations and pages 5 and 6 of 17, of this TSD, for a summary table). Based on the calculations, the unlimited potential to emit greenhouse gases from the entire source is 55,436.45, which is less than 100,000 tons of CO2e per year. Since this source previously opted to be a FESOP source, and since the purpose of a FESOP permit is to limit the source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act, a FESOP emissions cap for greenhouse gases (GHGs) has been added to the permit. No other changes have been made to the permit as a result of this review.

Note: this is a new requirement for this source. This is a Title I change.

- 5.] A number of new Federal Area Source National Emission Standards for Hazardous Air Pollutants (NESHAPs) have been promulgated since the issuance of FESOP Renewal No. F055-25301-05227, on April 29, 2008. Therefore, IDEM has performed an applicability determination for each and determined that the following Federal Rules apply:

A. 40 CFR 63, Subpart JJJJJJ (6J);

Note: this is a new requirement for this source. This is a Title I change.

- 6.] During this review, the emissions calculations were updated to include emissions not previously counted from the hot oil heater (including PM, PM10, SO2 and NOx). Additionally, the hot oil heater emissions, formerly listed as fugitive emissions, have been reclassified as ducted/ductable emissions since it would be reasonably possible to capture, and if necessary control, these emissions.

Finally, 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. The updated emission factors have affected emissions from the fuel combustion dryer/mixer process and the hot oil heater.

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

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

Permit Level Determination – FESOP Revision

The following table is used to determine the appropriate permit level under 326 IAC 2-8.11.1. This table reflects the PTE before controls of the proposed revision. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	PTE of Proposed Revision (tons/year)	
	PM _{2.5} *	Green House Gas Pollutants (GHGs)** as CO ₂ e
Ducted Emissions		
Dryer Fuel Combustion (worst case)	18.70	54,587.94
Dryer/Mixer (Process)	1,971.00	43,693.13
Hot Oil Heater Fuel Combustion (worst case)	0.12	848.51
Worst Case Emissions^α	1,971.12	55,436.45
Fugitive Emissions		
Asphalt Load-Out and On-Site Yard	1.46	0
Material Storage Piles	0.56	0
Material Processing and Handling	0.61	0
Material Screening, and Conveying	15.23	0
Unpaved and Paved Roads (worst case)	1.71	0
Total Fugitive Emissions	19.56	0
Total Unlimited/Uncontrolled Potential to Emit (PTE)	1,990.69	55,436.45
Title V Major Source Thresholds	100	100,000
PSD Major Source Thresholds	250	100,000
Emission Offset/Nonattainment NSR Major Source Thresholds	NA	NA
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". ** The 100,000 CO ₂ e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD. α Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Worst Case Emissions from Hot Oil Heater Fuel Combustion		

This FESOP is being revised through a FESOP Significant Permit Revision pursuant to 326 IAC 2-8-11.1(g) because it involves adjustment to the existing source-wide emissions limitations to maintain the FESOP status of the source (see "PTE of the Entire Source after Issuance of the FESOP Revision Section", below).

PTE of the Entire Source after Issuance of the FESOP Revision

The table below summarizes the potential to emit of the entire source, with updated emissions shown as **bold** values and previous emissions shown as ~~strikethrough~~ values.

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)									
	PM	PM ₁₀ *	PM _{2.5} *	SO ₂	NO _x	VOC	CO	GHGs** as CO ₂ e	Total HAPs	Worst Single HAP
Ducted/Ductable Emissions										
Dryer Fuel Combustion (worst case) ⁽¹⁾	4.51	7.43	7.43	25.00	88.34 45.05	1.74	26.50	50,910.77	0.77	0.57 (hexane)
Dryer/Mixer ⁽²⁾ (Process)	175.50	76.44	76.44	45.24	42.90	24.96	93.60	25,936.56	8.31	2.42 (formaldehyde)
Dryer/Mixer Slag Processing ⁽³⁾	0	0	0	0	0	0	0	0	0	NA
Hot Oil Heater Fuel Combustion (worst case)	0.08	0.12	0.12	2.67	0.75	0.01	0.19	848.51	0.003	0.002 (hexane)
Worst Case Emissions*	175.50 175.58	76.44 76.56	76.56	45.24 47.91	88.34 45.80	24.96 24.97	93.60 93.79	51,759.29	8.15 8.32	2.42 (formaldehyde)
Fugitive Emissions										
Asphalt Load-Out and On-Site Yard ⁽³⁾	0.86	0.86	0.86	0	0	13.36	2.25	0	0.22	0.07 (formaldehyde)
Hot Oil Heater	0	0	0	0	0	0.06	2.25	0	0.06	0.04
Material Storage Piles	1.60	0.56	0.56	0	0	0	0	0	0	NA
Material Processing and Handling ⁽³⁾	5.04	2.38	0.36	0	0	0	0	0	0	NA
Material Crushing, Screening, and Conveying ⁽³⁾	24.75	9.04	9.04	0	0	0	0	0	0	NA
Unpaved and Paved Roads (worst case) ⁽¹⁾	39.84	10.15	1.02	0	0	0	0	0	0	NA
Cold Mix Asphalt Production ⁽⁴⁾	0	0	0	0	0	60.00	0	0	15.65	5.40 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	N/A
Volatile Organic Liquid Storage Vessels ***	0	0	0	0	0	negl.	0	0	negl.	negl.
Total Fugitive Emissions	72.10	23.00	11.84	0	0	73.42 73.36	4.95 2.25	0	15.93 15.87	5.40 (xylenes)
Total Limited/ Controlled Emissions	247.60 247.67	99.44 99.57	88.40	45.24 47.91	88.34 45.80	98.38 98.33	98.55 96.04	51,759.29	24.08 24.19	7.825.40 (xylenes)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
negl = negligible NA = 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.										
** The 100,000 CO ₂ e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.										
*** 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 production limit to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP).										
(4) Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP).										

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

Process/ Emission Unit	Potential To Emit of the Entire Source after Issuance of Revision (tons/year)									
	PM	PM ₁₀ *	PM _{2.5} **	SO ₂	NO _x	VOC	CO	GHGs** as CO ₂ e	Total HAPs	Worst Single HAP
Ducted/Ductable Emissions										
Dryer Fuel Combustion (worst case) ⁽¹⁾	4.51	7.43	7.43	25.00	45.05	1.74	26.50	50,910.77	0.77	0.57 (hexane)
Dryer/Mixer ⁽²⁾ (Process)	175.50	76.44	76.44	45.24	42.90	24.96	93.60	25,936.56	8.31	2.42 (formaldehyde)
Dryer/Mixer Slag Processing ⁽³⁾	0	0	0	0	0	0	0	0	0	NA
Hot Oil Heater Fuel Combustion (worst case)	0.08	0.12	0.12	2.67	0.75	0.01	0.19	848.51	0.003	0.002 (hexane)
Worst Case Emissions*	175.58	76.56	76.56	47.91	45.80	24.97	93.79	51,759.29	8.32	2.42 (formaldehyde)
Fugitive Emissions										
Asphalt Load-Out and On-Site Yard ⁽³⁾	0.86	0.86	0.86	0	0	13.36	2.25	0	0.22	0.07 (formaldehyde)
Material Storage Piles	1.60	0.56	0.56	0	0	0	0	0	0	NA
Material Processing and Handling ⁽³⁾	5.04	2.38	0.36	0	0	0	0	0	0	NA
Material Screening, and Conveying ⁽³⁾	24.75	9.04	9.04	0	0	0	0	0	0	NA
Unpaved and Paved Roads (worst case) ⁽¹⁾	39.84	10.15	1.02	0	0	0	0	0	0	NA
Cold Mix Asphalt Production ⁽⁴⁾	0	0	0	0	0	60.00	0	0	15.65	5.40 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	NA
Volatile Organic Liquid Storage Vessels ***	0	0	0	0	0	negl.	0	0	negl.	negl.
Total Fugitive Emissions	72.10	23.00	11.84	0	0	73.36	2.25	0	15.87	5.40 (xylenes)
Total Limited/ Controlled Emissions	247.67	99.57	88.40	47.91	45.80	98.33	96.04	51,759.29	24.19	5.40 (xylenes)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
negl = negligible NA = 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. ** The 100,000 CO2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD. ***PM _{2.5} listed is direct PM _{2.5} . (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 production limit to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP). (4) Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP).										

(a) FESOP Status

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

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

- (1) The asphalt production rate shall not exceed 1,560,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) PM2.5 emissions from the dryer/mixer shall not exceed 0.098 pounds of PM2.5 per ton of asphalt produced.
- (3) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOCs per ton of asphalt produced.

Compliance with these limits, combined with the potential to emit PM2.5, and VOCs, from all other emission units at this source, shall limit the source-wide total potential to emit of PM2.5, and VOCs, each, to less than 100 tons per 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: these are new requirements for this source. These are Title I changes.

- (b) PSD Minor Source
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included for this proposed revision.

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 (326 IAC 20), are not included in the permit, 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. Dave O'Mara Contractor, Inc., Plant #7 is still considered an area source under Section 112 of the Clean Air Act, MACT Standards. Therefore, the source is 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 (326 IAC 20-71), are not included in the permit, since the existing stationary drum hot-mix asphalt plant is still not an asphalt processing plant or an asphalt roofing manufacturing facility because 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 a part of a major source of HAP emissions.

(c) 40 CFR 63, Subpart CCCCCC - 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 CCCCCC (6C) (326 IAC 20), are not included in the permit, because this existing stationary drum hot-mix asphalt plant has no gasoline dispensing facilities.

(d) 40 CFR 63, Subpart JJJJJJ - NESHAPs for Industrial, Commercial, and Institutional Boilers Area Sources

(1) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ (6J), are not included in the permit for the dryer/mixer burner since although this existing source is an area source of hazardous air pollutants (HAP), as defined in §63.2, the dryer/mixer burner is a direct-fired process unit and not a boiler, as defined in 40 CFR 63.11237.

(2) The one (1) 1.2 MMBtu/hr No. 2 fuel-oil fired hot oil heater is subject to the National Emission Standards for Hazardous Air Pollutants for the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ (6J), since this existing source is an area source of hazardous air pollutants (HAP), as defined in §63.2, and because the hot oil heater fires No. 2 fuel oil.

Note: this is a new requirement for this source. This is a Title I change.

The units subject to this rule include the following:

- Each boiler that combusts coal, biomass, and/or oil.

Applicable portions of the NESHAP are the following:

(A) 40 CFR 63.11193;	(I) 40 CFR 63.11223(a),(b)(1) - (7);
(B) 40 CFR 63.11194(a)(1),(b),(e);	(J) 40 CFR 63.11225(a),(b),(c),(d),(g);
(C) 40 CFR 63.11196(a)(1);	(K) 40 CFR 63.11235
(D) 40 CFR 63.11200;	(L) 40 CFR 63.11236
(E) 40 CFR 63.11201(b),(d);	(M) 40 CFR 63.11237
(F) 40 CFR 63.11205(a);	(N) Table 2
(G) 40 CFR 63.11210(c);	(O) Table 8
(H) 40 CFR 63.11214(b);	

Note: There are no testing requirements applicable to this source for this NESHAP.

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the one (1) 1.2 MMBtu/hr No. 2 fuel-oil fired hot oil heater except as otherwise specified in 40 CFR 63, Subpart JJJJJJ.

(e) 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 the permit, 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.

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

Compliance Assurance Monitoring (CAM)

Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the proposed revision:

- (a) 326 IAC 2-8-4 (FESOP)
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP). See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (d) 326 IAC 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.
- (e) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall continue to 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.
- (f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall continue to be controlled according to the Fugitive Dust Control Plan, which is included as Attachment A to the permit.

- (g) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The unlimited VOC potential emissions from the dryer/mixer is greater than twenty-five (25) tons per year. However, the source shall limit the VOC potential emissions from the dryer/mixer to less than twenty-five (25) tons per year. Therefore, the source is not subject to the requirements of 326 IAC 8-1-6.

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

- (1) The asphalt production rate shall not exceed 1,560,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.

Compliance with these limits, combined with the potential to emit VOCs from all other emission units at this source, shall limit the source-wide total potential to emit of VOCs to less than twenty-five (25) tons per 12 consecutive month period and shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

Note: this is a new requirement for this source. This is a Title I change.

- (h) There are no other 326 IAC 8 Rules that are applicable to this revision.
- (i) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.
- (j) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

Compliance Determination, Monitoring and Testing Requirements

- (a) The compliance determination requirements applicable to this proposed revision are as follows:
- (1) In order to comply with the PM2.5 limitations in the permit, the 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.
 - (2) The annual hot-mix asphalt production rate will be used to verify compliance with the FESOP PM2.5 and VOC emission limitations, and the BACT avoidance VOC emission limitation.

- (b) The testing requirements applicable to this proposed revision are as follows:

Emission Unit	Control Device	Pollutant	Timeframe for Testing	Frequency of Testing
Dryer/mixer	Baghouse	PM2.5	Within 5 yrs of last valid test ⁽¹⁾	Once every five (5) years

- (1) Required for compliance with 40 CFR 60, Subpart I, and 326 IAC 2-8 (FESOP). The last valid dryer/mixer stack test for PM and PM10 occurred on July 16, 2008. The source was in compliance at that time.

Based on a comparison with recent test results from similar sources, IDEM has determined that the source would have complied with their PM2.5 limit at that time. Therefore, PM2.5 testing shall be conducted in concurrence with the next PM/PM10 test.

(c) The compliance monitoring requirements applicable to this proposed revision are as follows:

Emission Unit & Control Device	Parameter	Frequency	Range	Excursions and Exceedances
Dryer/mixer baghouse stack exhaust (#1)	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

These monitoring conditions are necessary because the baghouse used in conjunction with the hot-mix dryer/mixer must operate properly to ensure continued compliance with 40 CFR 60, Subpart I, and 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.

The existing compliance requirements will not change as a result of this revision. The source shall continue to comply with the applicable requirements and permit conditions as contained in FESOP No: F055-25301-05227 on April 29, 2008.

Proposed Changes

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

(1) IDEM's records have been updated, as follows:

Location: ~~Harris City Stone Company, 24031 Derbyshire Rd, Laurel, Indiana, 47024, Franklin County~~
5883 E SR 58, Elnora, IN 47529, Daviess County.

(b) Upon further review, IDEM, OAQ has decided to make the following changes to the permit.

- (1) Condition A.1 - General Information and the FESOP Reporting Forms, pages 5 and 34 - 42 of 44 of the permit, have been revised to remove all references to the source mailing address. IDEM, OAQ will continue to maintain records of the mailing address.
- (2) Condition A.3 - Insignificant Activities, page 5 of 44 of the permit, has been revised to note the NESHAP 6J applicability.
- (3) Condition C.2 - Overall Source Limit, page 16 of 44 of the permit, has been revised to include a new FESOP emissions cap for greenhouse gases (GHGs).
- (4) A new condition D.1.3 - Particulate Matter Less than Two and Five Tenths Microns (PM2.5), page 24 of 44 of the permit, has been added to include a FESOP PM2.5 emission limit (lb/ton).
- (5) A new condition D.1.5 - Volatile Organic Compounds (VOC), page 25 of 44 of the permit, has been added to include a (lb/ton) FESOP VOC emission limit/BACT avoidance limit.

- (6) Condition D.1.6, - Carbon Monoxide (CO), formerly condition D.1.4, page 25 of 44 of the permit, has been revised to more clearly specify that the units for the emission limit contained in the condition are "pounds of CO" per ton of asphalt produced.
- (7) Condition D.1.8 - Testing Requirements, formerly condition D.1.6, page 26 of 44 of the permit, has been revised to incorporate a reference to 326 IAC 3-6 since it was previously removed from section C, to add reference to Section C - Performance Testing, and to add PM2.5 testing requirements needed to determine compliance with D.1.3(b).
- (8) Condition D.1.9 - Particulate Matter (PM), formerly condition D.1.7, page 26 of 44 of the permit, has been revised to correctly reference conditions D.1.2 (PM10) and D.1.3 (PM2.5), since the baghouse is required for compliance with all of the particulate limits.
- (9) Where applicable, the references contained in conditions D.1.14 - Record Keeping Requirements and D.1.15 - Reporting Requirements, formerly conditions D.1.12 and D.1.13, page 28 of 44 of the permit, have been updated to reflect all previously listed changes to the permit.
- (10) A new Section E.1 - NESHAPs Requirements, page 33 of 44 of the permit, has been added to include the NESHAP JJJJJJ (6J) applicability.

The Permit has been revised as follows, with deleted language shown as ~~strikeouts~~ and new language **bolded**. Permit conditions have been renumbered as needed to accommodate the above-listed revisions.

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

The Permittee owns and operates a portable hot drum mix asphalt manufacturing facility.

~~Mailing Address: 1100 East O&M Avenue, North Vernon, Indiana 47265~~

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

This portable source also includes the following insignificant activities:

(b) Other categories with emissions below insignificant thresholds:

- (1) One (1) No. 2 fuel-oil fired hot oil heater with a rated capacity of 1.2 MMBtu/hr; and

Under 40 CFR 63, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, this is considered an affected facility.

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) **and greenhouse gases (GHGs)**, from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period.

D.1.3 Particulate Matter Less than Two and Five Tenths Microns (PM_{2.5}) [326 IAC 2-8-4] [326 IAC 2-2]

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

- (1) The asphalt production rate shall not exceed 1,560,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) PM2.5 emissions from the dryer/mixer shall not exceed 0.098 pounds of PM2.5 per ton of asphalt produced.

Compliance with these limits, combined with the potential to emit PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM2.5 to less than 100 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-1.1-5 (Nonattainment New Source Review), not applicable.

D.1.43 Sulfur Dioxide (SO₂) [326 IAC 2-8-4] [326 IAC 7-1.1]

D.1.5 Volatile Organic Compounds (VOC) [326 IAC 2-8-4] [326 IAC 8-1-6]

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

- (1) The asphalt production rate shall not exceed 1,560,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.

Compliance with these limits, combined with the potential to emit VOCs from all other emission units at this source, shall limit the source-wide total potential to emit of VOCs to less than 100 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).

Additionally, compliance with the limits contained in this condition shall limit the VOC emissions from the 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.1.64 Carbon Monoxide (CO) [326 IAC 2-8-4]

The asphalt production shall be limited to 1,560,000 tons per twelve (12) consecutive month period and the CO emissions shall be limited to less than 0.120 **pounds of CO** per ton of asphalt produced. The CO emissions for the whole source are therefore limited to less than 100 tons per year and 326 IAC 2-7 does not apply.

D.1.97 Particulate Matter (PM/PM10/PM2.5)

The baghouse shall be in operation at all times the aggregate dryer burner is in operation, in order to comply with Conditions D.1.1, **D.1.2, and D.1.3.**

D.1.8 Testing Requirements [326 IAC 2-1.1-11]

- (a)** ~~No later than 90 days after initial start up, in order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform PM and PM₁₀ testing utilizing methods per 40 CFR Part 60 Appendix A, Method 5 for PM and methods as approved by the Commissioner for PM₁₀. PM₁₀ includes filterable and condensable PM₁₀. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration.~~ **In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM testing of the dryer/mixer not later than five (5) years from the most recent valid compliance demonstration. This testing shall be conducted utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with 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 and D.1.3(b), the Permittee shall perform PM10 and PM2.5 testing of the dryer/mixer not later than five (5) years from the most recent valid compliance demonstration. This testing shall be conducted utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with 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 includes filterable and condensable PM.**

D.1.1412 Record Keeping Requirements

- (a)** To document the compliance status with Condition ~~D.1.43~~, the Permittee shall maintain records in accordance with (1) through (3) below. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- *****
- (b)** To document the compliance status with Conditions ~~D.1.43(c)~~, the Permittee shall keep records of the amount of No. 4 fuel oil used at the aggregate dryer burner. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.
- (c)** To document the compliance status with Conditions D.1.1, D.1.2, **D.1.3, D.1.5,** and ~~D.1.64~~, the Permittee shall keep records of the amount of asphalt processed through the aggregate dryer burner. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.
- (d)** The Permittee shall maintain records sufficient to verify compliance with the procedures specified in condition ~~D.1.108~~. Records shall be maintained for a period of five (5) years and shall be made available upon request by IDEM.
- (e)** To document the compliance status with Condition ~~D.1.119~~, the Permittee shall maintain records of the daily visible emission notations of the drum mix dryer burner baghouse stack exhaust, conveyors, and transfer points. 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 (i.e., the process did not operate that day).

- (f) To document the compliance status with Condition D.1.1240, the Permittee shall maintain daily records of the pressure drop during normal operation.

D.1.1513 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.1, D.1.2, ~~D.1.3~~, and ~~D.1.43(c)~~, **D.1.5**, and **D.1.64**, shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION E.1 NESHAP REQUIREMENTS

Emissions Unit Description: Boilers (Hot Oil Heater)

- (1) **One (1) No. 2 fuel-oil fired hot oil heater with a rated capacity of 1.2 MMBtu/hr; and**

Under 40 CFR 63, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, this is considered an affected facility.

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

**National Emission Standards for Hazardous Air Pollutants (NESHAPs) Requirements
[326 IAC 2-8-4(1)]**

E.1.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

- (a) Pursuant to §63.11130, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 8 of 40 CFR Part 63, Subpart JJJJJJ, and in accordance with the schedule in 40 CFR 63 Subpart JJJJJJ.

- (b) Pursuant to 40 CFR 63.12, the Permittee shall submit all required notifications and reports 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

E.1.2 National Emission Standards for Hazardous Air Pollutants (NESHAPs): Area Source Standards for Industrial, Commercial, and Institutional Boilers Area Sources [40 CFR 63, Subpart JJJJJJ] [326 IAC 20]

Pursuant to 40 CFR § 63.11112(a), the emission sources to which this subpart applies are each new, reconstructed, or existing industrial, commercial, and/or institutional

boiler within a subcategory (coal, biomass, oil), as listed in §63.11200 and defined in §63.11237, located at an area source.

The 1.2 MMBtu/hr No. 2 fuel-oil fired hot oil heater is therefore subject to the following portions of Subpart JJJJJJ (6J) (included as Attachment B of this permit):

- | | | | |
|-----|--------------------------------|-----|-------------------------------------|
| (A) | 40 CFR 63.11193; | (I) | 40 CFR 63.11223(a),(b)(1) - (7); |
| (B) | 40 CFR 63.11194(a)(1),(b),(e); | (J) | 40 CFR 63.11225(a),(b),(c),(d),(g); |
| (C) | 40 CFR 63.11196(a)(1); | (K) | 40 CFR 63.11235 |
| (D) | 40 CFR 63.11200; | (L) | 40 CFR 63.11236 |
| (E) | 40 CFR 63.11201(b),(d); | (M) | 40 CFR 63.11237 |
| (F) | 40 CFR 63.11205(a); | (N) | Table 2 |
| (G) | 40 CFR 63.11210(c); | (O) | Table 8 |
| (H) | 40 CFR 63.11214(b); | | |

FESOP CERTIFICATION

Mailing Address: ~~1100 East O&M Avenue, North Vernon, Indiana 47265~~

FESOP EMERGENCY OCCURRENCE REPORT

Mailing Address: ~~1100 East O&M Avenue, North Vernon, Indiana 47265~~

FESOP Quarterly Report - Hot Mix Asphalt Production

Mailing Address: ~~1100 East O&M Avenue, North Vernon, Indiana 47265~~

FESOP Quarterly Report - No. 4 Fuel Oil Usage

Mailing Address: ~~1100 East O&M Avenue, North Vernon, Indiana 47265~~

FESOP Quarterly Report - No. 2/No.4 Fuel Oil Sulfur Content

Mailing Address: ~~1100 East O&M Avenue, North Vernon, Indiana 47265~~

FESOP Quarterly Report - Single Liquid Binder VOC Solvent

Mailing Address: ~~1100 East O&M Avenue, North Vernon, Indiana 47265~~

FESOP Multiple Liquid Binder Solvent Quarterly Report

Mailing Address: ~~1100 East O&M Avenue, North Vernon, Indiana 47265~~

FESOP QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Mailing Address: ~~1100 East O&M Avenue, North Vernon, Indiana 47265~~

No other changes have been made to the permit as a result of this permit action.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on September 21, 2011.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Revision No. F027-30947-05227. The staff recommends to the Commissioner that this FESOP Significant Revision 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.in.gov/idem

**Appendix A.1: Unlimited Emissions Calculations
Entire Source - Drum mix**

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

Asphalt Plant Maximum Capacity - Drum Mix

Maximum Hourly Asphalt Production =	300	ton/hr									
Maximum Annual Asphalt Production =	2,628,000	ton/yr									
Maximum Annual Blast Furnace Slag Usage =	0	ton/yr		0	% sulfur						
Maximum Annual Steel Slag Usage =	0	ton/yr		0	% sulfur						
Maximum Dryer Fuel Input Rate =	72.0	MMBtu/hr									
Natural Gas Usage =	631	MMCF/yr									
No. 2 Fuel Oil Usage =	4,505,143	gal/yr, and		0.50	% sulfur						
No. 4 Fuel Oil Usage =	4,505,143	gal/yr, and		0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and		0	% sulfur						
Propane Usage =	0	gal/yr, and		0	gr/100 ft3 sulfur						
Butane Usage =	0	gal/yr, and		0	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	0	gal/yr, and		0	% sulfur	0	% ash	0	% chlorine,	0	% lead
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 Blast Furnace Slag SO2 Dryer/Mixer Emission Factor =	0	lb/ton of slag processed									
Unlimited Steel Slag SO2 Dryer/Mixer Emission Factor =	0	lb/ton of slag processed									

Unlimited/Uncontrolled Emissions

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO ₂ e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	15.77	18.70	18.70	168.94	45.05	1.73	26.49	54,587.94	0.97	0.57 (hexane)
Dryer/Mixer (Process)	36,792.00	8,541.00	1,971.00	76.21	72.27	42.05	170.82	43,693.13	14.01	4.07 (formaldehyde)
Dryer/Mixer Slag Processing (worst case)	0	0	0	0.00	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.08	0.12	0.12	2.67	0.75	0.01	0.19	848.51	0.003	0.002 (hexane)
Worst Case Emissions*	36,792.08	8,541.12	1,971.12	171.61	73.02	42.06	171.01	55,436.45	14.01	4.07 (formaldehyde)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	1.46	1.46	1.46	0	0	22.51	3.79	0	0.38	0.12 (formaldehyde)
Material Storage Piles	1.60	0.56	0.56	0	0	0	0	0	0	0
Material Processing and Handling	8.49	4.02	0.61	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	41.69	15.23	15.23	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	67.12	17.11	1.71	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	31,581.99	0	0	8,237.75	2,842.38 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	0
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0
Total Fugitive Emissions	120.36	38.37	19.56	0	0	31,604.50	3.79	0	8,238.13	2,842.38 (xylenes)
Totals Unlimited/Uncontrolled PTE	36,912.43	8,579.49	1,990.69	171.61	73.02	31,646.55	174.79	55,436.45	8,252.14	2,842.38 (xylenes)

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 + Worst Case 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 #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: #####

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 =	300	ton/hr
Maximum Annual Asphalt Production =	2,628,000	ton/yr
Maximum Fuel Input Rate =	72	MMBtu/hr
Natural Gas Usage =	631	MMCF/yr
No. 2 Fuel Oil Usage =	4,505,143	gal/yr, and
No. 4 Fuel Oil Usage =	4,505,143	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

	0.50	% sulfur
	0.50	% 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 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)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 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)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	7.0	3.22	0.5	0.6	0	0.60	4.51	15.77	0	0	0	0	15.77
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	0	2.40	7.43	18.70	0	0	0	0	18.70
SO2	0.6	71.0	75.0	0	0	0	0	0.19	159.93	168.94	0	0	0	0	168.94
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	31.54	45.05	45.05	0	0	0	0	45.05
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	1.73	0.45	0.45	0	0	0	0	1.73
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	26.49024	11.26	11.26	0	0	0	0	26.49
Hazardous Air Pollutant															
HCl							0.0								0
Antimony							negl								0
Arsenic	2.0E-04	5.6E-04	5.25E-03	5.25E-03			1.1E-01	6.3E-05	1.26E-03	2.97E-03	0				negl
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	3.8E-06	9.46E-04	6.26E-05	0				negl
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	3.5E-04	9.46E-04	8.97E-04	0				0
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	4.4E-04	9.46E-04	1.90E-03	0				0
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	2.6E-05		1.36E-02	0				0
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0	1.6E-04	2.84E-03	3.40E-03	0				0
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.2E-04	1.89E-03	6.76E-03	0				0
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				8.2E-05	9.46E-04	2.55E-04	0				0
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	6.6E-04	9.46E-04	1.90E-01	0				0
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	7.6E-06	4.73E-03	1.54E-03	0				negl
1,1,1-Trichloroethane			2.36E-04	2.36E-04						5.32E-04	0				0
1,3-Butadiene															0
Acetaldehyde															0
Acrolein															0
Benzene	2.1E-03		2.14E-04	2.14E-04				6.6E-04		4.82E-04	0				0
Bis(2-ethylhexyl)phthalate							2.2E-03								0
Dichlorobenzene	1.2E-03						8.0E-07	3.8E-04							0
Ethylbenzene			6.36E-05	6.36E-05						1.43E-04	0				0
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				2.4E-02	1.37E-01	7.43E-02	0				0
Hexane	1.8E+00							0.57							0
Phenol							2.4E-03								0
Toluene	3.4E-03		6.20E-03	6.20E-03				1.1E-03		1.40E-02	0				0
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		2.55E-03	0				0
Polycyclic Organic Matter		3.30E-03							7.43E-03						0
Xylene			1.09E-04	1.09E-04						2.46E-04	0				0
Total HAPs								0.60	0.16	0.33	0	0	0	0	0.97

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

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

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

**Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO₂e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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 =	300	ton/hr						
Maximum Annual Asphalt Production =	2,628,000	ton/yr						
Maximum Fuel Input Rate =	72	MMBtu/hr						
Natural Gas Usage =	631	MMCF/yr						
No. 2 Fuel Oil Usage =	4,505,143	gal/yr, and	0.50	% sulfur				
No. 4 Fuel Oil Usage =	4,505,143	gal/yr, and	0.50	% sulfur				
Refinery Blend, and Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0	% sulfur				
Propane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur				
Butane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur				
Used/Waste Oil Usage =	0	gal/yr, and	0	% sulfur	0	% ash	0	% chlorine, 0 % lead

Unlimited/Uncontrolled Emissions

CO ₂ e Fraction	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 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)	Name	Chemical Formula	Global warming potential
CO ₂	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO ₂	1
CH ₄	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	21
N ₂ O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N ₂ O	310

CO ₂ e Fraction	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 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)
CO ₂	37,894.24	50,686.03	54,407.40	0	0	0	0
CH ₄	0.79	2.06	2.18	0	0	0	0
N ₂ O	0.69	0.59	0.44	0	0	0	0
Total	37,895.72	50,688.68	54,410.01	0	0	0	0

CO₂e for Worst Case Fuel* (tons/yr)
54,587.94

CO₂e Equivalent Emissions (tons/yr)	38,125.83	50,910.77	54,587.94	0	0	0	0
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Methodology

Fuel Usage from TSD Appendix A.1, page 1 of 14.
 Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Fuel 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/0.0915 MMBtu]
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Abbreviations

PTE = Potential to Emit
 CO₂ = Carbon Dioxide
 CH₄ = Methane
 N₂O = Nitrogen Dioxide

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

- Natural Gas: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N₂O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2
- No. 2 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- No. 4 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- Residual (No. 5 or No. 6) Fuel Oil: Emission Factor for CO₂ from 40 CFR Part 98 Subpart C, Table C-1, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CH₄ and N₂O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- Propane: Emission Factor for CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CO₂ and N₂O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
- Butane: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
- Waste Oil: Emission Factors for CO₂, CH₄, and N₂O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu)] * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)
 Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu)] * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)

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]

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) + Unlimited Potential to Emit CH₄ of "worst case" fuel (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (310).

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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

Maximum Hourly Asphalt Production = 300 ton/hr
 Maximum Annual Asphalt Production = 2,628,000 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	36792	36792	36792	36792
PM10*	6.5	6.5	6.5	8541	8541	8541	8541
PM2.5*	1.5	1.5	1.5	1971	1971	1971	1971
SO2**	0.0034	0.011	0.058	4.5	14.5	76.2	76.2
NOx**	0.026	0.055	0.055	34.2	72.3	72.3	72.3
VOC**	0.032	0.032	0.032	42.0	42.0	42.0	42.0
CO***	0.13	0.13	0.13	170.8	170.8	170.8	170.8
Hazardous Air Pollutant							
HCl			2.10E-04			2.76E-01	0.28
Antimony	1.80E-07	1.80E-07	1.80E-07	2.37E-04	2.37E-04	2.37E-04	2.37E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	7.36E-04	7.36E-04	7.36E-04	7.36E-04
Beryllium	negl	negl	negl	negl	negl	negl	0
Cadmium	4.10E-07	4.10E-07	4.10E-07	5.39E-04	5.39E-04	5.39E-04	5.39E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	7.23E-03	7.23E-03	7.23E-03	7.23E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	3.42E-05	3.42E-05	3.42E-05	3.42E-05
Lead	6.20E-07	1.50E-05	1.50E-05	8.15E-04	1.97E-02	1.97E-02	1.97E-02
Manganese	7.70E-06	7.70E-06	7.70E-06	1.01E-02	1.01E-02	1.01E-02	1.01E-02
Mercury	2.40E-07	2.60E-06	2.60E-06	3.15E-04	3.42E-03	3.42E-03	3.42E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	0.08	0.08	0.08	0.08
Selenium	3.50E-07	3.50E-07	3.50E-07	4.60E-04	4.60E-04	4.60E-04	4.60E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.05	0.05	0.05	0.05
Acetaldehyde			1.30E-03			1.71	1.71
Acrolein			2.60E-05			3.42E-02	3.42E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.51	0.51	0.51	0.51
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.32	0.32	0.32	0.32
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	4.07	4.07	4.07	4.07
Hexane	9.20E-04	9.20E-04	9.20E-04	1.21	1.21	1.21	1.21
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.06	0.06	0.06	0.06
MEK			2.00E-05			0.03	0.03
Propionaldehyde			1.30E-04			0.17	0.17
Quinone			1.60E-04			0.21	0.21
Toluene	1.50E-04	2.90E-03	2.90E-03	0.20	3.81	3.81	3.81
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.25	1.16	1.16	1.16
Xylene	2.00E-04	2.00E-04	2.00E-04	0.26	0.26	0.26	0.26
Total HAPs							14.01
Worst Single HAP							4.07 (formaldehyde)

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.

Abbreviations

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

**Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO₂e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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

Maximum Hourly Asphalt Production = ton/hr
 Maximum Annual Asphalt Production = ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Greenhouse Gas Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO ₂ e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO ₂	33	33	33	1	43,362.00	43,362.00	43,362.00	43,693.13
CH ₄	0.0120	0.0120	0.0120	21	15.77	15.77	15.77	
N ₂ O				310	0	0	0	
Total					43,377.77	43,377.77	43,377.77	
CO₂e Equivalent Emissions (tons/yr)					43,693.13	43,693.13	43,693.13	

Methodology

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.

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

There are no emission factors for N₂O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N₂O emission anticipated from this process.

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

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) + Unlimited Potential to Emit CH₄ of "worst case" fuel (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CO₂ = Carbon Dioxide

CH₄ = Methane

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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

Maximum Annual Blast Furnace Slag Usage* =

0

 ton/yr

0

 % sulfur
Maximum Annual Steel Slag Usage* =

0

 ton/yr

0

 % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)**	Unlimited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag	0	0
Steel Slag	0	0

Methodology

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

** Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from blast furnace slag containing 1.10% sulfur content. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

** Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.

Unlimited Potential to Emit SO2 from Slag (tons/yr) = [(Maximum Annual Slag Usage (ton/yr)) * [Emission Factor (lb/ton)] * [ton/2000 lbs]

Abbreviations

SO2 = Sulfur Dioxide

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 #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr
 Natural Gas Usage = 0 MMCF/yr
 No. 2 Fuel Oil Usage = 75,086 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	0.075	0.08
PM10/PM2.5	7.6	3.3	0	0.124	0.12
SO2	0.6	71.0	0	2.666	2.67
NOx	100	20.0	0	0.751	0.75
VOC	5.5	0.20	0	0.008	0.01
CO	84	5.0	0	0.188	0.19
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	0	2.10E-05	2.1E-05
Beryllium	1.2E-05	4.2E-04	0	1.58E-05	1.6E-05
Cadmium	1.1E-03	4.2E-04	0	1.58E-05	1.6E-05
Chromium	1.4E-03	4.2E-04	0	1.58E-05	1.6E-05
Cobalt	8.4E-05		0		0
Lead	5.0E-04	1.3E-03	0	4.73E-05	4.7E-05
Manganese	3.8E-04	8.4E-04	0	3.15E-05	3.2E-05
Mercury	2.6E-04	4.2E-04	0	1.58E-05	1.6E-05
Nickel	2.1E-03	4.2E-04	0	1.58E-05	1.6E-05
Selenium	2.4E-05	2.1E-03	0	7.88E-05	7.9E-05
Benzene	2.1E-03		0		0
Dichlorobenzene	1.2E-03		0		0
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	0	2.29E-03	0.002
Hexane	1.8E+00		0		0
Phenol					0
Toluene	3.4E-03		0		0
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		1.24E-04	1.2E-04
Total HAPs =		0	2.7E-03	0.003	

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

Abbreviations

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

Appendix A.1: Unlimited Emissions Calculations

**Greenhouse Gas (CO2e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr
 Natural Gas Usage = 0 MMCF/yr
 No. 2 Fuel Oil Usage = 75,085.71 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Greenhouse Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case CO2e Emissions (tons/yr)
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
CO2	120,161.84	22,501.41	1	0	844.77	848.51
CH4	2.49	0.91	21	0	0.03	
N2O	2.2	0.26	310	0	0.01	
				0	844.81	
CO2e Equivalent Emissions (tons/yr)				0	848.51	

Methodology

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 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]
 Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
 Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2
 No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
 Propane: Emission Factor for CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CO2 and N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
 Butane: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]
 Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

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] * Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

CO2 = Carbon Dioxide
 CH4 = Methane
 N2O = Nitrogen Dioxide
 PTE = Potential to Emit

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	2,628,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.69	0.77	NA	1.46
Organic PM	3.4E-04	2.5E-04	NA	0.45	0.334	NA	0.78
TOC	0.004	0.012	0.001	5.46	16.01	1.445	22.9
CO	0.001	0.001	3.5E-04	1.77	1.550	0.463	3.79

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

PM/HAPs	0.032	0.038	0	0.069
VOC/HAPs	0.081	0.204	0.021	0.306
non-VOC/HAPs	4.2E-04	4.3E-05	1.1E-04	5.8E-04
non-VOC/non-HAPs	0.40	0.23	0.10	0.73

Total VOCs	5.14	16.01	1.4	22.5
Total HAPs	0.11	0.24	0.021	0.38
Worst Single HAP				0.117
				(formaldehyde)

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)::

Total PM/PM10/PM2.5 Ef = 0.000181 + 0.00141(-V)e^{-(0.0251)(T+460)-20.43}
 Organic PM Ef = 0.00141(-V)e^{-(0.0251)(T+460)-20.43}
 TOC Ef = 0.0172(-V)e^{-(0.0251)(T+460)-20.43}
 CO Ef = 0.00558(-V)e^{-(0.0251)(T+460)-20.43}

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

PM/PM10 Ef = 0.000332 + 0.00105(-V)e^{-(0.0251)(T+460)-20.43}
 Organic PM Ef = 0.00105(-V)e^{-(0.0251)(T+460)-20.43}
 TOC Ef = 0.0504(-V)e^{-(0.0251)(T+460)-20.43}
 CO Ef = 0.00488(-V)e^{-(0.0251)(T+460)-20.43}

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

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

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

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	1.2E-03	1.6E-03	NA	2.7E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	1.3E-04	4.7E-05	NA	1.7E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	3.1E-04	4.3E-04	NA	7.5E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	8.5E-05	1.9E-04	NA	2.7E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	3.4E-05	0	NA	3.4E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	9.9E-06	0	NA	9.9E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	8.5E-06	0	NA	8.5E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	1.0E-05	0	NA	1.0E-05
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	3.5E-05	3.2E-05	NA	6.7E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	4.6E-04	7.0E-04	NA	1.2E-03
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	1.7E-06	0	NA	1.7E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	2.2E-04		NA	2.2E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	3.4E-03	3.4E-03	NA	6.8E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	2.1E-06	0	NA	2.1E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	1.1E-02	1.8E-02	NA	0.028
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	5.6E-03	6.1E-03	NA	1.2E-02
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	9.9E-05	1.0E-04	NA	2.0E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	3.6E-03	6.0E-03	NA	9.6E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	6.7E-04	1.5E-03	NA	2.1E-03
Total PAH HAPs							0.027	0.038	NA	0.064
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	5.3E-03	0	0	5.3E-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)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	5.14	16.01	1.36	22.51
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	3.6E-01	4.2E-02	9.4E-02	0.491
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	2.5E-03	8.8E-03	6.6E-04	0.012
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	3.9E-02	1.8E-01	1.0E-02	0.225
Total non-VOC/non-HAPS					7.30%	1.40%	0.399	0.224	0.106	0.73
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	2.8E-03	5.1E-03	7.5E-04	8.7E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	5.2E-04	7.8E-04	1.4E-04	1.4E-03
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	2.7E-03	6.2E-03	7.1E-04	9.6E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	7.1E-04	2.6E-03	1.9E-04	3.5E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	1.1E-05	6.4E-04	3.0E-06	6.6E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	8.2E-04	3.7E-03	2.2E-04	4.7E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	6.0E-03	0	1.6E-03	7.6E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	1.5E-02	6.1E-03	4.0E-03	0.025
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	4.8E-03	1.1E-01	1.3E-03	0.117
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	8.2E-03	1.6E-02	2.2E-03	0.026
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	9.8E-05	5.0E-05	2.6E-05	1.7E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	4.3E-05	0	4.3E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	4.0E-04	8.6E-04	1.1E-04	1.4E-03
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	4.2E-04	0	1.1E-04	5.3E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	1.1E-02	9.9E-03	3.0E-03	0.024
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	7.1E-05	0	1.9E-05	9.0E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	2.2E-02	3.2E-02	5.9E-03	0.060
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	4.4E-03	9.1E-03	1.2E-03	1.5E-02
Total volatile organic HAPs					1.50%	1.30%	0.082	0.208	0.022	0.312

Methodology

Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [TOC (tons/yr)]
 Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations

TOC = Total Organic Compounds
 HAP = Hazardous Air Pollutant
 VOC = Volatile Organic Compound
 MTBE = Methyl tert butyl ether

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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.

$E_f = 1.7 \cdot (s/1.5) \cdot (365-p)/235 \cdot (f/15)$ <p>where E_f = emission factor (lb/acre/day) s = silt content (wt %) p = <input type="text" value="125"/> days of rain greater than or equal to 0.01 inches f = <input type="text" value="15"/> % of wind greater than or equal to 12 mph</p>

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	0.75	0.412	0.144
Limestone	1.6	1.85	0.75	0.253	0.089
RAP	0.5	0.58	0.75	0.079	0.028
Gravel	1.6	1.85	0.75	0.253	0.089
Slag	3.8	4.40	0.75	0.602	0.211
Totals				1.60	0.56

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.

RAP - recycled asphalt pavement

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PM2.5 = PM10

PTE = Potential to Emit

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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 μ m)
 k (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter ≤ 10 μ m)
 k (PM2.5) = 0.053 = particle size multiplier (0.053 assumed for aerodynamic diameter ≤ 2.5 μ m)
 U = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006*)
 M = 4.0 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
 E_f (PM) = 2.27E-03 lb PM/ton of material handled
 E_f (PM10) = 1.07E-03 lb PM10/ton of material handled
 E_f (PM2.5) = 1.62E-04 lb PM2.5/ton of material handled

Maximum Annual Asphalt Production = 2,628,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 2,496,600 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	2.83	1.34	0.20
Front-end loader dumping of materials into feeder bins	2.83	1.34	0.20
Conveyor dropping material into dryer/mixer or batch tower	2.83	1.34	0.20
Total (tons/yr)	8.49	4.02	0.61

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)**
Crushing	0.0054	0.0024	6.74	3.00
Screening	0.025	0.0087	31.21	10.86
Conveying	0.003	0.0011	3.74	1.37
Unlimited Potential to Emit (tons/yr) =			41.69	15.23

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 stone/gravel, slag, and recycled asphalt pavement (RAP)
 Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2
 *Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).
 **Assumes PM10 = PM2.5

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 μ m)
 PM2.5 = Particulate matter (< 2.5 μ m)
 PTE = Potential to Emit

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

Unpaved Roads at Industrial Site

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

Maximum Annual Asphalt Production = 2,628,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 2,496,600 tons/yr
 Maximum Asphalt Cement/Binder Throughput = 131,400 tons/yr
 Maximum No. 2 Fuel Oil Usage = 4,505,143 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)	23.0	22.4	45.4	1.1E+05	5.1E+06	330	0.063	6966.0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	23.0	0	23.0	1.1E+05	2.6E+06	330	0.063	6966.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	5.9E+05	1.1E+07	165	0.031	18575.9
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	5.9E+05	8.9E+06	165	0.031	18575.9
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	23.0	24.0	47.0	1.1E+05	5.1E+06	330	0.063	6843.8
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	23.0	0	23.0	1.1E+05	2.5E+06	330	0.063	6843.8
Total					1.6E+06	3.6E+07			6.5E+04

Average Vehicle Weight Per Trip = 21.8 tons/trip
 Average Miles Per Trip = 0.040 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 =	21.8	21.8	21.8	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 =	6.30	1.61	0.16	lb/mile
Mitigated Emission Factor, E_{ext} =	4.15	1.06	0.11	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)	21.96	5.60	0.56	14.44	3.68	0.37	7.22	1.84	0.18
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	21.96	5.60	0.56	14.44	3.68	0.37	7.22	1.84	0.18
Aggregate/RAP Loader Full	Front-end loader (3 CY)	58.55	14.92	1.49	38.50	9.81	0.98	19.25	4.91	0.49
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	58.55	14.92	1.49	38.50	9.81	0.98	19.25	4.91	0.49
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	21.57	5.50	0.55	14.18	3.61	0.36	7.09	1.81	0.18
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	21.57	5.50	0.55	14.18	3.61	0.36	7.09	1.81	0.18
Totals		204.16	52.03	5.20	134.24	34.21	3.42	67.12	17.11	1.71

Methodology

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

Abbreviations

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

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

Paved Roads at Industrial Site

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

Maximum Annual Asphalt Production	=	2,628,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	=	5.0%	
Maximum Material Handling Throughput	=	2,496,600	tons/yr
Maximum Asphalt Cement/Binder Throughput	=	131,400	tons/yr
Maximum No. 2 Fuel Oil Usage	=	4,505,143	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)	23.0	22.4	45.40	1.1E+05	5.1E+06	330	0.063	6966.0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	23.0	0	23.00	1.1E+05	2.6E+06	330	0.063	6966.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	5.9E+05	1.1E+07	165	0.031	18575.9
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	5.9E+05	8.9E+06	165	0.031	18575.9
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	23.0	24.0	47.00	1.1E+05	5.1E+06	330	0.063	6843.8
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	23.0	0	23.00	1.1E+05	2.5E+06	330	0.063	6843.8
Total					1.6E+06	3.6E+07			6.5E+04

Average Vehicle Weight Per Trip = 21.8 tons/trip
 Average Miles Per Trip = 0.040 miles/trip

Unmitigated Emission Factor, $E_f = [k * (sL)^{0.91} * (W)^{1.02}]$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	21.8	21.8	21.8	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = 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	0.16	0.03	0.01	lb/mile
Mitigated Emission Factor, E_{ext}	0.15	0.03	0.01	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)	0.56	0.11	0.03	0.51	0.10	0.03	0.26	0.05	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.56	0.11	0.03	0.51	0.10	0.03	0.26	0.05	0.01
Aggregate/RAP Loader Full	Front-end loader (3 CY)	1.49	0.30	0.07	1.36	0.27	0.07	0.68	0.14	0.03
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	1.49	0.30	0.07	1.36	0.27	0.07	0.68	0.14	0.03
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.55	0.11	0.03	0.50	0.10	0.02	0.25	0.05	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.55	0.11	0.03	0.50	0.10	0.02	0.25	0.05	0.01
Totals		5.20	1.04	0.26	4.75	0.95	0.23	2.38	0.48	0.12

Methodology

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

Abbreviations

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

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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

Maximum Annual Asphalt Production =

2,628,000

 tons/yr
Percent Asphalt Cement/Binder (weight %) =

5.0%

Maximum Asphalt Cement/Binder Throughput =

131,400

 tons/yr

Volatiles 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%	33,244.2	31,582.0
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	37,580.4	26,306.3
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	26,280.0	6,570.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	19,710.0	9,145.4
Other asphalt with solvent binder	25.9%	2.5%	34,032.6	850.8
Worst Case PTE of VOC =				31,582.0

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
PTE of Total HAPs (tons/yr) =	8,237.75
PTE of Single HAP (tons/yr) =	2,842.38 Xylenes

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%	
Total Organic HAPs		26.08%	0.33%	1.29%	0.68%	0.19%
Worst Single HAP		9.00%	0.31%	0.50%	0.23%	0.07%
		Xylenes	Naphthalene	Xylenes	Xylenes	Chrysene

Methodology

Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] * [Maximum Weight % of VOC Solvent in Binder]
PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [Maximum VOC Solvent Usage (tons/yr)]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tp.htm>

Abbreviations

VOC = Volatile Organic Compounds
PTE = Potential to Emit

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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:

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

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
Total		0

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
Limited PTE of Total HAPs (tons/yr) =	0
Limited PTE of Single HAP (tons/yr) =	0 Xylenes

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/tph.htm>

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Calculations
Entire Source - Drum Mix**

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

Asphalt Plant Limitations - Drum Mix

Maximum Hourly Asphalt Production =	300	ton/hr								
Annual Asphalt Production Limitation =	1,560,000	ton/yr								
Blast Furnace Slag Usage Limitation =	0	ton/yr	0	% sulfur						
Steel Slag Usage Limitation =	0		0	% sulfur						
Natural Gas Limitation =	631	MMCF/yr								
No. 2 Fuel Oil Limitation =	4,505,143	gal/yr, and	0.05	% sulfur						
No. 4 Fuel Oil Limitation =	813,000	gal/yr, and	0.41	% 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
PM Dryer/Mixer Limitation =	0.225	lb/ton of asphalt production								
PM10 Dryer/Mixer Limitation =	0.098	lb/ton of asphalt production								
PM2.5 Dryer/Mixer Limitation =	0.098	lb/ton of asphalt production								
CO Dryer/Mixer Limitation =	0.120	lb/ton of asphalt production								
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production								
Blast Furnace Slag SO2 Dryer/Mixer Limitation =	0	lb/ton of slag processed								
Steel Slag SO2 Dryer/Mixer Limitation =	0	lb/ton of slag processed								
Cold Mix Asphalt VOC Usage Limitation =	60.0	tons/yr								
HCl Limitation =	0	lb/kgal								

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO _{2e}	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	4.51	7.43	7.43	25.00	45.05	1.74	26.50	50,910.77	0.77	0.57 (hexane)
Dryer/Mixer (Process)	175.50	76.44	76.44	45.24	42.90	24.96	93.60	25,936.56	8.31	2.42 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	0	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.08	0.12	0.12	2.67	0.75	0.01	0.19	848.51	0.003	0.002 (hexane)
Worst Case Emissions*	175.58	76.56	76.56	47.91	45.80	24.97	93.79	51,759.29	8.32	2.42 (formaldehyde)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.86	0.86	0.86	0	0	13.36	2.25	0	0.22	0.07 (formaldehyde)
Material Storage Piles	1.60	0.56	0.56	0	0	0	0	0	0	0
Material Processing and Handling	5.04	2.38	0.36	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	24.75	9.04	9.04	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	39.84	10.15	1.02	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	60.00	0	0	15.65	5.40 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	0
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	negl
Total Fugitive Emissions	72.10	23.00	11.84	0	0	73.36	2.25	0	15.87	5.40 (xylenes)
Totals Limited/Controlled Emissions	247.67	99.57	88.40	47.91	45.80	98.33	96.04	51,759.29	24.19	5.40 (xylenes)

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 #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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 =	300	ton/hr
Annual Asphalt Production Limitation =	1,560,000	ton/yr
Natural Gas Limitation =	631	MMCF/yr
No. 2 Fuel Oil Limitation =	4,505,143	gal/yr, and
No. 4 Fuel Oil Limitation =	813,000	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
	0.05	% sulfur
	0.41	% 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 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)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 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)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	7.0	3.22	0.5	0.6	0	0.60	4.51	2.85	0	0	0	0	4.51
PM10	7.6	3.3	8.3	4.72	0.5	0.6	0	2.40	7.43	3.37	0	0	0	0	7.43
SO2	0.6	7.1	61.5	0	0	0	0	0.19	15.99	25.00	0	0	0	0	25.00
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	31.55	45.05	8.13	0	0	0	0	45.05
VOC	5.5	0.20	0.20	0.28	1.0	1.10	1.0	1.74	0.45	0.08	0	0	0	0	1.74
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	26.50	11.26	2.03	0	0	0	0	26.50
Hazardous Air Pollutant															
HCl							0.0								0
Antimony			5.25E-03	5.25E-03			negl			2.13E-03	0			0	2.1E-03
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	6.3E-05	1.26E-03	5.37E-04	0			0	1.3E-03
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	3.8E-06	9.46E-04	1.13E-05	0			negl	9.5E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	3.5E-04	9.46E-04	1.62E-04	0			0	9.5E-04
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	4.4E-04	9.46E-04	3.43E-04	0			0	9.5E-04
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	2.7E-05		2.45E-03	0			0	2.4E-03
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0	1.6E-04	2.84E-03	6.14E-04	0			0	0
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.2E-04	1.89E-03	1.22E-03	0			0	0
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				8.2E-05	9.46E-04	4.59E-05	0			0	9.5E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	6.6E-04	9.46E-04	3.43E-02	0			0	0.034
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	7.6E-06	4.73E-03	2.78E-04	0			negl	4.7E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						9.59E-05	0			0	9.6E-05
1,3-Butadiene															0
Acetaldehyde															0
Acrolein															0
Benzene	2.1E-03		2.14E-04	2.14E-04				6.6E-04		8.70E-05	0			0	6.6E-04
Bis(2-ethylhexyl)phthalate							2.2E-03							0	0
Dichlorobenzene	1.2E-03						8.0E-07	3.8E-04						0	3.8E-04
Ethylbenzene			6.36E-05	6.36E-05						2.59E-05	0			0	2.6E-05
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				2.4E-02	1.37E-01	1.34E-02	0			0	0.137
Hexane	1.8E+00							0.57						0	0.568
Phenol							2.4E-03							0	0
Toluene	3.4E-03		6.20E-03	6.20E-03				1.1E-03		2.52E-03	0			0	2.5E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		4.59E-04	0			0	4.6E-04
Polycyclic Organic Matter		3.30E-03							7.43E-03		0			0	7.4E-03
Xylene			1.09E-04	1.09E-04						4.43E-05	0			0	4.4E-05
Total HAPs								0.60	0.16	0.06	0	0	0	0	0.77

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

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

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

**Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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 =	300	ton/hr								
Annual Asphalt Production Limitation =	1,560,000	ton/yr								
Natural Gas Limitation =	631	MMCF/yr								
No. 2 Fuel Oil Limitation =	4,505.143	gal/yr, and	0.05	% sulfur						
No. 4 Fuel Oil Limitation =	813.000	gal/yr, and	0.41	% 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

Limited Emissions

CO ₂ e Fraction	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 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)	Name	Chemical Formula	Global warming potential
CO ₂	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO ₂	1
CH ₄	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	21
N ₂ O	2.20	0.26	0.19	0.53	0.90	0.90	0.18	Nitrous oxide	N ₂ O	310

CO ₂ e Fraction	Limited Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 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)
CO ₂	37,911.06	50,688.03	9,818.38	0	0	0	0
CH ₄	0.79	2.06	0.39	0	0	0	0
N ₂ O	0.69	0.59	0.08	0	0	0	0
Total	37,912.54	50,688.68	9,818.85	0	0	0	0
CO ₂ e Equivalent Emissions (tons/yr)	38,142.75	50,910.77	9,850.96	0	0	0	0

CO₂e for Worst Case Fuel (tons/yr)
50,910.77

Methodology

Fuel Limitations from TSD Appendix A.2, page 1 of 15.
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
 Natural Gas: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N₂O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2
 No. 2 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
 No. 4 Fuel Oil: Emission Factors for CO₂, CH₄, and N₂O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.
 Residual (No. 5 or No. 6) Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
 Propane and Butane: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
 Waste Oil: Emission Factors for CO₂, CH₄, and N₂O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]
 Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/MMCF)]

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)

Limited CO₂e Emissions (tons/yr) = CO₂ Potential Emission of "worst case" fuel (ton/yr) x CO₂ GWP (1) + CH₄ Potential Emission of "worst case" fuel (ton/yr) x CH₄ GWP (21) + N₂O Potential Emission of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CH₄ = Methane CO₂ = Carbon Dioxide N₂O = Nitrogen Dioxide PTE = Potential to Emit

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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

Maximum Hourly Asphalt Production =	300	ton/hr
Annual Asphalt Production Limitation =	1,560,000	ton/yr
PM Dryer/Mixer Limitation =	0.225	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.098	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.098	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.120	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	0.225	0.225	0.225	175.50	175.50	175.50	175.50
PM10*	0.098	0.098	0.098	76.44	76.44	76.44	76.44
PM2.5*	0.098	0.098	0.098	76.44	76.44	76.44	76.44
SO2**	0.003	0.011	0.058	2.65	8.58	45.24	45.24
NOx**	0.026	0.055	0.055	20.28	42.90	42.90	42.90
VOC**	0.032	0.032	0.032	24.96	24.96	24.96	24.96
CO**	0.120	0.120	0.120	93.60	93.60	93.60	93.60
Hazardous Air Pollutant							
HCl			2.10E-04			0.16	0.16
Antimony	1.80E-07	1.80E-07	1.80E-07	1.40E-04	1.40E-04	1.40E-04	1.40E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	4.37E-04	4.37E-04	4.37E-04	4.37E-04
Beryllium	negl	negl	negl	negl	negl	negl	0
Cadmium	4.10E-07	4.10E-07	4.10E-07	3.20E-04	3.20E-04	3.20E-04	3.20E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	4.29E-03	4.29E-03	4.29E-03	4.29E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	2.03E-05	2.03E-05	2.03E-05	2.03E-05
Lead	6.20E-07	1.50E-05	1.50E-05	4.84E-04	1.17E-02	1.17E-02	1.17E-02
Manganese	7.70E-06	7.70E-06	7.70E-06	6.01E-03	6.01E-03	6.01E-03	6.01E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	1.87E-04	2.03E-03	2.03E-03	2.03E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	4.91E-02	4.91E-02	4.91E-02	4.91E-02
Selenium	3.50E-07	3.50E-07	3.50E-07	2.73E-04	2.73E-04	2.73E-04	2.73E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	3.12E-02	3.12E-02	3.12E-02	3.12E-02
Acetaldehyde			1.30E-03			1.01	1.01
Acrolein			2.60E-05			2.03E-02	0.02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.30	0.30	0.30	0.30
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.19	0.19	0.19	0.19
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	2.42	2.42	2.42	2.42
Hexane	9.20E-04	9.20E-04	9.20E-04	0.72	0.72	0.72	0.72
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.04	0.04	0.04	0.04
MEK			2.00E-05			1.56E-02	1.56E-02
Propionaldehyde			1.30E-04			0.10	0.10
Quinone			1.60E-04			0.12	0.12
Toluene	1.50E-04	2.90E-03	2.90E-03	0.12	2.26	2.26	2.26
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.15	0.69	0.69	0.69
Xylene	2.00E-04	2.00E-04	2.00E-04	0.16	0.16	0.16	0.16
Total HAPs							8.31
Worst Single HAP							2.42 (formaldehyde)

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

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-4, 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.

Abbreviations

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

**Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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

Maximum Hourly Asphalt Production = ton/hr
 Annual Asphalt Production Limitation = ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Greenhouse Gas Global Warming Potentials (GWP)	Limited Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO ₂ e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO ₂	33	33	33	1	25,740.00	25,740.00	25,740.00	25,936.56
CH ₄	0.0120	0.0120	0.0120	21	9.36	9.36	9.36	
N ₂ O				310	0	0	0	
Total					25,749.36	25,749.36	25,749.36	
CO₂e Equivalent Emissions (tons/yr)					25,936.56	25,936.56	25,936.56	

Methodology

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

There are no emission factors for N₂O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N₂O emission anticipated from this process.

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

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.

Limited CO₂e Emissions (tons/yr) = CO₂ Potential Emission of "worst case" fuel (ton/yr) x CO₂ GWP (1) + CH₄ Potential Emission of "worst case" fuel (ton/yr) x CH₄ GWP (21) + N₂O Potential Emission of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CO₂ = Carbon Dioxide

CH₄ = Methane

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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

Limited Blast Furnace Slag Usage =

0

 ton/yr

0

 % sulfur
 Limited Annual Steel Slag Usage =

0

 ton/yr

0

 % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)*	Limited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag	0	0
Steel Slag	0	0

Methodology

* Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from blast furnace slag containing 1.10% sulfur content. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

** Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.

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

Abbreviations

SO2 = Sulfur Dioxide

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 #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr
 Natural Gas Usage = 0 MMCF/yr
 No. 2 Fuel Oil Usage = 75,086 gal/yr, and 0.05 % 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	0.075	0.08
PM10/PM2.5	7.6	3.3	0	0.124	0.12
SO2	0.6	71.0	0	2.666	2.67
NOx	100	20.0	0	0.751	0.75
VOC	5.5	0.20	0	0.008	0.01
CO	84	5.0	0	0.188	0.19
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	0	2.10E-05	2.1E-05
Beryllium	1.2E-05	4.2E-04	0	1.58E-05	1.6E-05
Cadmium	1.1E-03	4.2E-04	0	1.58E-05	1.6E-05
Chromium	1.4E-03	4.2E-04	0	1.58E-05	1.6E-05
Cobalt	8.4E-05		0		0.0E+00
Lead	5.0E-04	1.3E-03	0	4.73E-05	4.7E-05
Manganese	3.8E-04	8.4E-04	0	3.15E-05	3.2E-05
Mercury	2.6E-04	4.2E-04	0	1.58E-05	1.6E-05
Nickel	2.1E-03	4.2E-04	0	1.58E-05	1.6E-05
Selenium	2.4E-05	2.1E-03	0	7.88E-05	7.9E-05
Benzene	2.1E-03		0		0.0E+00
Dichlorobenzene	1.2E-03		0		0.0E+00
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	0	2.29E-03	0.002
Hexane	1.8E+00		0		0.000
Phenol					0
Toluene	3.4E-03		0		0.0E+00
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		1.24E-04	1.2E-04
Total HAPs =			0	2.7E-03	0.003

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

Abbreviations

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

**Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr
 Natural Gas Usage = 0 MMCF/yr
 No. 2 Fuel Oil Usage = 75,085.71 gal/yr, 0.05 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Greenhouse Gas Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO ₂	120,161.84	22,501.41	1	0	844.77
CH ₄	2.49	0.91	21	0	3.43E-02
N ₂ O	2.20	0.26	310	0	9.76E-03
Total				0	844.81

Worse Case CO₂e Emissions (tons/yr)
848.51

CO ₂ e Equivalent Emissions (tons/yr)	0	848.51
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Methodology

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas : Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N₂O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2

No. 2 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Propane and Butane: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

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] *

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) + Unlimited Potential to Emit CH₄ of "worst case" fuel (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CH₄ = Methane
 CO₂ = Carbon Dioxide
 N₂O = Nitrogen Dioxide
 PTE = Potential to Emit

Appendix A.2: Limited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	1,560,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.41	0.46	NA	0.86
Organic PM	3.4E-04	2.5E-04	NA	0.27	0.198	NA	0.46
TOC	0.004	0.012	0.001	3.24	9.51	0.858	13.6
CO	0.001	0.001	3.5E-04	1.05	0.920	0.275	2.25

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

PM/HAPs	0.019	0.023	0	0.042
VOC/HAPs	0.048	0.121	0.013	0.181
non-VOC/HAPs	2.5E-04	2.6E-05	6.6E-05	3.4E-04
non-VOC/non-HAPs	0.24	0.13	0.06	0.43

Total VOCs	3.05	9.51	0.8	13.4
Total HAPs	0.07	0.14	0.013	0.22
Worst Single HAP				0.069
				(formaldehyde)

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)::

$$\begin{aligned} \text{Total PM/PM10 Ef} &= 0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)} \\ \text{Organic PM Ef} &= 0.00141(-V)e^{((0.0251)(T+460)-20.43)} \\ \text{TOC Ef} &= 0.0172(-V)e^{((0.0251)(T+460)-20.43)} \\ \text{CO Ef} &= 0.00558(-V)e^{((0.0251)(T+460)-20.43)} \end{aligned}$$

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

$$\begin{aligned} \text{PM/PM10 Ef} &= 0.000332 + 0.00105(-V)e^{((0.0251)(T+460)-20.43)} \\ \text{Organic PM Ef} &= 0.00105(-V)e^{((0.0251)(T+460)-20.43)} \\ \text{TOC Ef} &= 0.0504(-V)e^{((0.0251)(T+460)-20.43)} \\ \text{CO Ef} &= 0.00488(-V)e^{((0.0251)(T+460)-20.43)} \end{aligned}$$

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.

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

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	6.9E-04	9.3E-04	NA	1.6E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	7.4E-05	2.8E-05	NA	1.0E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.9E-04	2.6E-04	NA	4.4E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	5.1E-05	1.1E-04	NA	1.6E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	2.0E-05	0	NA	2.0E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	5.9E-06	0	NA	5.9E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	5.1E-06	0	NA	5.1E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	6.1E-06	0	NA	6.1E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	2.1E-05	1.9E-05	NA	4.0E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	2.7E-04	4.2E-04	NA	6.9E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	9.8E-07	0	NA	9.8E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.3E-04	3.0E-04	NA	4.3E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	2.0E-03	2.0E-03	NA	4.0E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.2E-06	0	NA	1.2E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	6.3E-03	1.0E-02	NA	0.017
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	3.3E-03	3.6E-03	NA	6.9E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	5.9E-05	5.9E-05	NA	1.2E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	2.2E-03	3.6E-03	NA	5.7E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	4.0E-04	8.7E-04	NA	1.3E-03
Total PAH HAPs							0.016	0.023	NA	0.038
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	3.1E-03	0	0	3.1E-03

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

Methodology

Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] * [Organic PM (tons/yr)]
 Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations

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

**Appendix A.2: Limited 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		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	3.05	9.51	0.81	13.36
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	2.1E-01	2.5E-02	5.6E-02	0.291
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.5E-03	5.2E-03	3.9E-04	0.007
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	2.3E-02	1.0E-01	6.1E-03	0.134
Total non-VOC/non-HAPS					7.30%	1.40%	0.237	0.133	0.063	0.43
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.7E-03	3.0E-03	4.5E-04	5.2E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	3.1E-04	4.7E-04	8.2E-05	8.6E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.6E-03	3.7E-03	4.2E-04	5.7E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	4.2E-04	1.5E-03	1.1E-04	2.1E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	6.8E-06	3.8E-04	1.8E-06	3.9E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	4.9E-04	2.2E-03	1.3E-04	2.8E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	3.6E-03	0	9.4E-04	4.5E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	9.1E-03	3.6E-03	2.4E-03	0.015
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	2.9E-03	6.6E-02	7.6E-04	0.069
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	4.9E-03	9.5E-03	1.3E-03	0.016
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	5.8E-05	2.9E-05	1.5E-05	1.0E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.6E-05	0	2.6E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	2.4E-04	5.1E-04	6.3E-05	8.1E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.5E-04	0	6.6E-05	3.2E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	6.8E-03	5.9E-03	1.8E-03	0.015
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	4.2E-05	0	1.1E-05	5.3E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.3E-02	1.9E-02	3.5E-03	0.036
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.6E-03	5.4E-03	6.9E-04	8.7E-03
Total volatile organic HAPs					1.50%	1.30%	0.049	0.124	0.013	0.185

Methodology

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

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

Abbreviations

- TOC = Total Organic Compounds
- HAP = Hazardous Air Pollutant
- VOC = Volatile Organic Compound
- MTBE = Methyl tert butyl ether

**Appendix A.2: Limited Emissions Calculations
Material Storage Piles**

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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.

$E_f = 1.7 \cdot (s/1.5) \cdot (365-p)/235 \cdot (f/15)$ <p>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</p>

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	0.75	0.412	0.144
Limestone	1.6	1.85	0.75	0.253	0.089
RAP	0.5	0.58	0.75	0.079	0.028
Gravel	1.6	1.85	0.75	0.253	0.089
Slag	3.8	4.40	0.75	0.602	0.211
Totals				1.60	0.56

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.

RAP = recycled asphalt pavement

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PM2.5 = PM10

PTE = Potential to Emit

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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.

$$E_f = k \cdot (0.0032)^{0.74} \cdot (U/5)^{1.3} / (M/2)^{1.4}$$

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 = 1,560,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 1,482,000 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	1.68	0.79	0.12
Front-end loader dumping of materials into feeder bins	1.68	0.79	0.12
Conveyor dropping material into dryer/mixer or batch tower	1.68	0.79	0.12
Total (tons/yr)	5.04	2.38	0.36

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)**
Crushing	0.0054	0.0024	4.00	1.78
Screening	0.025	0.0087	18.53	6.45
Conveying	0.003	0.0011	2.22	0.82
Limited Potential to Emit (tons/yr) =			24.75	9.04

Methodology

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Limited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]
 Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)
 Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2
 *Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).
 **Assumes PM10 = PM2.5

Abbreviations

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

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

Unpaved Roads at Industrial Site

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

Annual Asphalt Production Limitation = 1,560,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 1,482,000 tons/yr
 Maximum Asphalt Cement/Binder Throughput = 78,000 tons/yr
 No. 2 Fuel Oil Limitation = 4,505,143 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)	23.0	22.4	45.4	6.6E+04	3.0E+06	330	0.063	4135.0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	23.0	0	23.0	6.6E+04	1.5E+06	330	0.063	4135.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	3.5E+05	6.8E+06	165	0.031	11026.8
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	3.5E+05	5.3E+06	165	0.031	11026.8
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	23.0	24.0	47.0	6.5E+04	3.1E+06	330	0.063	4062.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	23.0	0	23.0	6.5E+04	1.5E+06	330	0.063	4062.5
Total					9.7E+05	2.1E+07			3.8E+04

Average Vehicle Weight Per Trip = 21.8 tons/trip
 Average Miles Per Trip = 0.040 miles/trip

Unmitigated Emission Factor, $E_f = k[(s/12)^a][(W/3)^b]$ (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 =	21.8	21.8	21.8	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, $E_{ext} = E_f * [(365 - P)/365]$

Mitigated Emission Factor, $E_{ext} = E_f * [(365 - P)/365]$
 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	6.30	1.61	0.16	lb/mile
Mitigated Emission Factor, E_{ext}	4.15	1.06	0.11	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)	13.03	3.32	0.33	8.57	2.18	0.22	4.28	1.09	0.11
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	13.03	3.32	0.33	8.57	2.18	0.22	4.28	1.09	0.11
Aggregate/RAP Loader Full	Front-end loader (3 CY)	34.76	8.86	0.89	22.85	5.82	0.58	11.43	2.91	0.29
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	34.76	8.86	0.89	22.85	5.82	0.58	11.43	2.91	0.29
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	12.80	3.26	0.33	8.42	2.15	0.21	4.21	1.07	0.11
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	12.80	3.26	0.33	8.42	2.15	0.21	4.21	1.07	0.11
Totals		121.19	30.89	3.09	79.69	20.31	2.03	39.84	10.15	1.02

Methodology

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

Abbreviations

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

Appendix A.2: Limited Emissions Calculations
Paved Roads

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

Paved Roads at Industrial Site

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

Annual Asphalt Production Limitation	1,560,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	1,482,000	tons/yr
Maximum Asphalt Cement/Binder Throughput	78,000	tons/yr
No. 2 Fuel Oil Limitation	4,505,143	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)	23.0	22.4	45.4	6.6E+04	3.0E+06	330	0.063	4135.0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	23.0	0	23.0	6.6E+04	1.5E+06	330	0.063	4135.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	3.5E+05	6.8E+06	165	0.031	11026.8
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	3.5E+05	5.3E+06	165	0.031	11026.8
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	23.0	24.0	47.0	6.5E+04	3.1E+06	330	0.063	4062.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	23.0	0	23.0	6.5E+04	1.5E+06	330	0.063	4062.5
Total					9.7E+05	2.1E+07			3.8E+04

Average Vehicle Weight Per Trip = 21.8 tons/trip
 Average Miles Per Trip = 0.040 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^{0.91} * (W)^{1.02}] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	21.8	21.8	21.8	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = 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 =	0.16	0.03	0.01	lb/mile
Mitigated Emission Factor, Eext =	0.15	0.03	0.01	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)	0.33	0.07	0.02	0.30	0.06	0.01	0.15	0.03	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.33	0.07	0.02	0.30	0.06	0.01	0.15	0.03	0.01
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.89	0.18	0.04	0.81	0.16	0.04	0.40	0.08	0.02
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.89	0.18	0.04	0.81	0.16	0.04	0.40	0.08	0.02
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.33	0.07	0.02	0.30	0.06	0.01	0.15	0.03	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.33	0.07	0.02	0.30	0.06	0.01	0.15	0.03	0.01
Totals		3.09	0.62	0.15	2.82	0.56	0.14	1.41	0.28	0.07

Methodology

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

Abbreviations

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

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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%	63.2	60.0	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	85.7	60.0	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	240.0	60.0	4.000
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	129.3	60.0	2.155
Other asphalt with solvent binder	25.9%	2.5%	2400.0	60.0	40.0
Worst Case Limited PTE of VOC =				60.0	

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
Limited PTE of Total HAPs (tons/yr) =	15.65
Limited PTE of Single HAP (tons/yr) =	5.40 Xylenes

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

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

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/tph.htm>

Abbreviations

VOC = Volatile Organic Compounds
 PTE = Potential to Emit

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

Company Name: Dave O'Mara Contractor, Inc., Plant #7
Source Address: Portable
Permit No.: F027-25301-05227
Revision No.: F027-30947-05227
Reviewer: Hannah L. Desrosiers
Date: 10/3/2011

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
Total		0

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
Limited PTE of Total HAPs (tons/yr) =	0	
Limited PTE of Single HAP (tons/yr) =	0	Xylenes

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/tph.htm>

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit



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

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

TO: Amy Boswell
Dave O'Mara Contractor, Inc. – Plant #7
1100 E O & M Avenue
North Vernon, IN 47265

DATE: January 12, 2012

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

SUBJECT: Final Decision
Significant Permit Revision
027-30947-05227

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.

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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Toll Free (800) 451-6027
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January 12, 2012

TO: Elnora 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. – Plant #7
Permit Number: 027-30947-05227

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	GHOTOPP 1/12/2012 Dave OMara Contractor, Inc. - Plant #7 027-30947-05227 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: CERTIFICATE OF MAILING ONLY	

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 #7 1100 E O&M Ave North Vernon IN 47265 (Source CAATS) via confirmed delivery										
2		Mr. Wendell Hibdon Plumbers & Steam Fitters Union, Local 136 2300 St. Joe Industrial Park Dr Evansville IN 47720 (Affected Party)										
3		Mr. Amos M. Wittmer R. R. 2, Box 456 Montgomery IN 47558 (Affected Party)										
4		Daviess County Commissioners 200 East Walnut Washington IN 47501 (Local Official)										
5		Davies County Health Department 303 East Hefron Street Washington IN 47501 (Health Department)										
6		Elnora Town Council P.O. Box 336 Elnora IN 47529 (Local Official)										
7		Mr. James Jones 209 S.E. 11th Street Washington IN 47501 (Affected Party)										
8		Mr. John Blair 800 Adams Ave Evansville IN 47713 (Affected Party)										
9		Elnora Public Library 210 Main Street, Box 750 Elnora IN 47529 (Library)										
10												
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