



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: November 14, 2011

RE: Dave O'Mara Contractor Plant 0233 / 105-30998-05234

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

Notice of Decision – Approval

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 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires 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 from 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-AM.dot12/3/07



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Ms. Amy Boswell
Dave O'Mara Contractor Plant 0233
1100 East O & M Avenue
North Vernon, IN 47265

November 14, 2011

Re: 105-30998-05234
Third Administrative Amendment to
F119-21451-05234

Dear Ms. Boswell:

Dave O'Mara Contractor Plant 0233 (Dave O'Mara) was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F119-21451-05234 on March 3, 2006 for a portable drum hot mix asphalt plant currently located at 110 North Oard Road, Bloomington, Indiana, in Monroe County. On October 3, 2011, the Office of Air Quality (OAQ) received an application from the source requesting the following:

- 1.] Dave O'Mara requests approval to construct one (1) 12,000 gallon storage tank, for the storage of emulsified asphalt.

IDEM agrees with the requested change. The 12,000 gallon emulsified asphalt storage tank is of the same type and will comply with the same applicable requirements and permit terms and conditions as the two (2) existing 30,000 gallon emulsified asphalt storage tanks. Additionally, the potential emissions of regulated criteria pollutants and hazardous air pollutants from the new storage tank are less than the ranges specified 326 IAC 2-8-11.1(d)(4) and 326 IAC 2-8-11.1(f)(1)(G), respectively. Therefore, the addition of this unit to the permit is considered an administrative amendment pursuant to 326 IAC 2-8-10(a)(14).

- 2.] Dave O'Mara will no longer be using re-refined oil and is requesting all references to re-refined oil be removed from the permit.

IDEM agrees with the requested change. This change to the permit is considered an administrative amendment pursuant to 326 IAC 2-8-10(a)(6), since it is a revision to descriptive information where the revision will not trigger a new applicable requirement or violate a permit term. See Appendix A for the change in PTE and limited emissions due to this change.

- 3.] Dave O'Mara requests that condition D.1.4(b)(2) be revised to include the language "calendar-month average", since according to 326 IAC 7-2-1, compliance with the sulfur dioxide emission limitations contained in 326 IAC 7-1.1 shall be demonstrated on a calendar month average. Accordingly, Dave O'Mara requests that condition D.1.16(b)(2) be revised to read "Actual steel slag usage and calendar-month average sulfur content for all steel slag used at the source since the last compliance period."

IDEM agrees with the requested change to condition D.1.4(b)(2), in conformation with the rule. This change to the permit is considered an administrative amendment pursuant to 326 IAC 2-8-10(a)(6), since it is a revision to descriptive information where the revision will not trigger a new applicable requirement or violate a permit term.

However, IDEM disagrees with the requested change to condition D.1.16(b)(2). The Permittee should be recording the actual sulfur content of each delivery. The actual values are needed to calculate the calendar-month average for each compliance period. It is acceptable to also include the calendar-month average in the records to show compliance.

- 4.] Dave O'Mara requests that condition D.1.11(b) be removed from the permit. Compliance with the fuel limitations will ensure compliance with the NOx limits.

IDEM disagrees with the requested change. The equation contained in Condition D.1.11(b) allows the source to track NOx emissions when combusting more than one type of fuel during the compliance period. The alternative would be that they could only combust 1 type of fuel during the compliance period, which would be very restrictive and reduce operational flexibility.

- 5.] Dave O'Mara requests that condition D.1.14(b) be removed from the permit. Any negative impacts from excessive temperatures will be reflected in the pressure drop readings for the baghouse as required in condition D.1.14(a).

IDEM agrees with the requested change. IDEM has determined that it is the Permittee's responsibility to include routine control device inspection requirements in the applicable preventive maintenance plan. Since the Permittee is in the best position to determine the appropriate frequency of control device inspections and the details regarding which components of the control device should be inspected, the conditions requiring control device inspections have been removed from the permit. In addition, the requirement to keep records of the inspections has been removed. Daily pressure drop and visible emissions inspections are deemed sufficient to ensure compliance with the FESOP PM, PM10, and PM2.5 limitations. This change to the permit is considered an administrative amendment pursuant to 326 IAC 2-8-10(a)(5), since it is a revision to a monitoring, maintenance, or record keeping requirement that is not environmentally significant.

Pursuant to the provisions of 326 IAC 2-8-10, the permit is hereby administratively amended as follows with the deleted language as ~~strikeouts~~ and new language **bolded**:

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, constructed in 1998, with a nominal capacity of 400 tons per hour, equipped with one (1) aggregate dryer burner with a maximum rated capacity of 120 million British thermal units (MMBtu) per hour, using natural gas, No. 2 fuel oil, **or** residual No. 4 fuel oil, ~~or re-refined waste oil~~, processing steel slag and certified asbestos-free factory second shingles in the aggregate mix, using one (1) baghouse for particulate control, and exhausting to stack SV1. No grinding of shingles occurs at this source.

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:

- (c) **One (1) liquid asphalt storage tank, identified as E-0233, approved for construction in 2011, with a maximum capacity of 12,000 gallons.**

(d~~e~~)

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

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

- (a) One (1) portable asphalt drum-mix plant, constructed in 1998, with a nominal capacity of 400 tons per hour, equipped with one (1) aggregate dryer burner with a maximum rated capacity of 120 million British thermal units (MMBtu) per hour, using natural gas, No. 2 fuel oil, **or** residual No. 4 fuel oil, ~~or re-refined waste oil~~, processing steel slag and certified asbestos-free factory second shingles in the aggregate mix, using one (1) baghouse for particulate control, and exhausting to stack SV1. No grinding of shingles occurs at this source.

D.1.4 Fuel and Slag Limits [326 IAC 2-8-4][326 IAC 2-2]

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

(b) Slag and Fuel Specifications

- (2) The **thirty (30) day calendar month average** sulfur content of the steel slag shall not exceed 0.66 percent by weight, **with compliance determined at the end of each month.**

- ~~(5) When combusting re-refined waste oil in the dryer/mixer burner the calendar month average sulfur content of the re-refined waste oil shall not exceed 2.10 percent by weight, with compliance determined at the end of each month.~~

(c) Single Fuel Usage Limitations

- ~~(4) Re-refined waste oil usage shall not exceed 611,937 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

D.1.6 Hazardous Air Pollutants (HAPs) [326 IAC 2-8-4][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to limit HAP emissions from the dryer/mixer, the Permittee shall **use only certified asbestos-free factory second shingles as an additive in its aggregate mix.**~~comply with the following:~~

- ~~(a) HCl emissions from the dryer/mixer shall not exceed 0.0264 pounds of HCl per gallon of re-refined waste oil burned.~~

- ~~(b) The chlorine content of the re-refined waste oil shall not exceed 0.4 percent by weight.~~

- ~~(d) The Permittee shall use only certified asbestos-free factory second shingles as an additive in its aggregate mix.~~

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

D.1.9 Sulfur Dioxide Emissions and Sulfur Content

- (b) Compliance with the fuel limitations established in Conditions D.1.4(b)(3), (4), and (5) - Fuel and Slag Limits and D.1.5(a) and (b) Sulfur Dioxide (SO₂) shall be determined utilizing one of the following options.

- (1) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed 0.5 pounds per million British thermal units heat input when combusting No. 2 distillate fuel oil, or 1.6 pounds per million British thermal units heat input when combusting No. 4 residual fuel oil ~~or re-refined waste oil~~, by:

D.1.11 Multiple Fuel Usage / Sulfur Dioxide (SO₂) and Nitrogen Oxide (NO_x) Emissions

- (1) Sulfur Dioxide emission calculation

$$S = \frac{F(E_F) + R(E_R) + G(E_G) + \cancel{O(E_O)} + L(E_L)}{2000 \text{ lbs/ton}}$$

Where:

~~O = gallons of re-refined waste oil used in last twelve (12) months~~

Emission Factors:

~~E_o = 0.31 pounds per gallon of re-refined waste oil~~

- (b) In order to determine compliance with Condition D.1.4(d)(2) - Fuel and Slag Limits, when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, the Permittee shall use the following equation to determine the tons of NO_x emitted per twelve (12) consecutive month period:

- (1) Nitrogen Oxide emission calculation

$$N = \frac{F(E_F) + R(E_R) + G(E_G) + \cancel{O(E_O)}}{2000 \text{ lbs/ton}}$$

Where:

~~O = gallons of re-refined waste oil used in last twelve (12) months~~

Emission Factors:

~~E_o = 0.19 pounds per gallon of re-refined waste oil~~

D.1.12 Chlorine and Asbestos Content

- ~~(a) The Permittee shall demonstrate compliance with the re-refined waste oil chlorine content limit established in Condition D.1.6(a) - Hazardous Air Pollutants (HAPs), by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.~~

- ~~(b) Compliance with Condition D.1.6(c) - Hazardous Air Pollutants (HAPs) shall be determined utilizing one of the following options:~~

- ~~(a1) Providing shingle supplier certification that the factory second shingles do not contain asbestos; or~~

- ~~(b2) Analyzing a sample of the factory second shingles delivery to determine the asbestos content of the factory second shingles, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.~~

D.1.14 Baghouse Parametric Monitoring

~~(b) The Permittee shall record the inlet temperature to the baghouse used in conjunction with the aggregate dryer and drum mixer, at least once per day when the aggregate dryer and drum mixer are in operation. When for any one reading, the inlet temperature to the baghouse is outside the normal range of 300 and 400 degrees Fahrenheit or a range established during the latest stack test, the Permittee shall take reasonable response. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. This is required to prevent overheating of the bags and to prevent low temperatures from mudding up the bags. A temperature reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.~~

~~(be)~~

D.1.16 Record Keeping Requirements

(c) To document the compliance status with Conditions D.1.4 - Fuel and Slag Limits and D.1.5 - Sulfur Dioxide (SO₂), the Permittee shall maintain records in accordance with (1) through (4) below. Records necessary to determine compliance shall be available no later than 30 days after the end of each compliance period.

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

(ii) A statement from the fuel supplier that certifies the sulfur content of the No. 2 fuel oil, **and** No. 4 fuel oil, ~~and re-refined waste oil.~~

(d) To document the compliance status with Condition D.1.6 - Hazardous Air Pollutants (HAPs), the Permittee shall maintain records in accordance with (1) ~~and through (26)~~ below. Records necessary to determine compliance shall be available no later than 30 days after the end of each compliance period.

~~(1) Calendar dates covered in the compliance determination period;~~

~~(2) Actual re-refined waste oil usage, chlorine content, and equivalent hydrogen chloride emission rate for re-refined waste oil used at the source since the last compliance determination period;~~

~~(3) A certification, signed by the owner or operator, that the records of the fuel oil supplier certifications represent all of the fuel combusted during the period; and~~

~~(4) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:~~

~~(i) The name of the fuel supplier; and~~

~~(ii) A statement from the fuel supplier that certifies the chlorine content of the re-refined waste oil.~~

~~(15) A certification, signed by the owner or operator, that the records of the shingle supplier certifications represent all of the shingles used during the period; and~~

(26) If the shingle supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]: <u>Insignificant Activities</u> ***** (c) One (1) liquid asphalt storage tank, identified as E-0233, approved for construction in 2011, with a maximum capacity of 12,000 gallons. (de) *****
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Facility: Dryer/mixer burner
 Parameter: Single fuel usage

Fuel Type (units)	Fuel Usage Limit (per 12 consecutive month period)
*****	*****
Re-refined waste oil (gallons)	611,937

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

FESOP Quarterly Report

Facility: Dryer/mixer burner and steel slag processing
 Parameter: SO2 and NOx emissions

Sulfur dioxide (SO2) emissions shall be determined using the following equation:

$$S = \frac{F(E_F) + R(E_R) + G(E_G) + O(E_O) + L(E_L)}{2000 \text{ lbs/ton}}$$

<u>Where:</u> ***** O = gallons of re-refined waste oil used in last twelve (12) months *****	<u>Emission Factors:</u> ***** E _o = 0.31 pounds per gallon of re-refined waste oil *****
--	---

Nitrogen Oxide (NOx) emissions shall be determined using the following equation:

$$N = \frac{F(E_F) + R(E_R) + G(E_G) + O(E_O)}{2000 \text{ lbs/ton}}$$

<p><u>Where:</u> ***** O = gallons of re-refined waste oil used in last twelve (12) months</p>	<p><u>Emission Factors:</u> ***** E_o = 0.19 pounds per gallon of re-refined waste oil</p>
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FESOP Fuel Usage and SO₂/NO_x Emissions Quarterly Reporting Form

Month	Fuel Types/Slag (units)	Column 1	Column 2	Column 1 + Column 2	Total SO ₂ Emissions From All Fuels Used and Slag (tons per 12 month consecutive period)	Total NO _x Emissions From All Fuels Used (tons per 12 month consecutive period)
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total		
Month 1	*****					
	Re-refined waste oil (gallons)					

Month 2	*****					
	Re-refined waste oil (gallons)					

Month 3	*****					
	Re-refined waste oil (gallons)					

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.] 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 Appendix A to this letter for detailed calculations, and pages 11 through 14 of 14 of this letter for a summary table). Based on the calculations, the unlimited potential to emit greenhouse gases from the entire source is 92,394.09, which is less than 100,000 tons of CO₂e per year. Since this source previously opted to be a FESOP source, 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.
- 2.] IDEM has performed an applicability determination for the recently promulgated National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and

Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ (6J). NESHAP 6J applicability, evaluated for the fuel combustion in the dryer and hot oil heater, is as follows:

- a.] 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 define in 40 CFR 63.11237.
- b.] The two (2), 1.0 MMBtu/hr hot oil heaters are each 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 two hot oil heaters can fire either natural gas or No. 2 fuel oil.

Note: this is a new requirement to the 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 two (2), two (2.0) MMBtu/hr hot oil heaters, identified as 14A and 14B, except as otherwise specified in 40 CFR 63, Subpart JJJJJJ.

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 stationary source also includes the following insignificant activities:

- (a) Two (2) hot oil heaters, approved for construction in 2010, with a maximum heat input capacity of 1.0 MMBtu per hour, each, firing natural gas or No. 2 fuel oil.

Under NESHAP Subpart JJJJJJ, the hot oil heaters are considered affected facilities.

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.**

SECTION D.3 FACILITY OPERATION CONDITIONS

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

Insignificant Activities

- (a) Two (2) hot oil heaters, approved for construction in 2010, with a maximum heat input capacity of 1.0 MMBtu per hour, each, firing natural gas or No. 2 fuel oil.

Under NESHAP Subpart JJJJJJ, the hot oil heaters are considered affected facilities.

SECTION E.2 FACILITY OPERATION CONDITIONS

Emissions Unit Description: Boilers (Hot Oil Heaters)

- (a) Two (2) hot oil heaters, approved for construction in 2010, with a maximum heat input capacity of 1.0 MMBtu per hour, each, firing natural gas or No. 2 fuel oil.

Under NESHAP Subpart JJJJJJ, the hot oil heaters are considered affected facilities.

(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.2.1 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.2.2 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 two (2) hot oil heaters are therefore subject to the following portions of Subpart JJJJJJ (6J) (included as Attachment C of this permit):

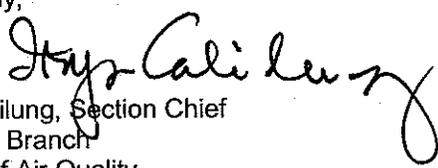
- | | | | |
|-----|--------------------------------|-----|-------------------------------------|
| (A) | 40 CFR 63.11193; | (I) | 40 CFR 63.11223(a),(b)(1) - (7); |
| (B) | 40 CFR 63.11194(a)(1),(b),(e); | (J) | 40 CFR 63.11225(a),(b),(c),(d),(g); |
| (C) | 40 CFR 63.11196(a)(1); | (K) | 40 CFR 63.11235 |
| (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); | | |

All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Ms. Hannah Desrosiers, at (800) 451-6027, press 0 and ask for Ms. Hannah Desrosiers or extension 4-5374, or dial (317) 234-5374.

Sincerely,


Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Attachments: Updated Permit

IC/hd

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

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)								
	PM	PM10 ¹	PM2.5	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Ducted Emissions									
Fuel Combustion (worst case)	10.42	10.45	10.45	94.45	97.75	2.83	43.22	9.47	8.08 HCl
Dryer/Mixer (Process)	101.14	58.17	88.14	29.0	27.50	16.0	65.0	5.33	1.55 formaldehyde
Dryer/Mixer Slag Processing	0	0	0	0.11	0	0	0	0	0
Hot Oil Heaters Fuel Combustion	0.13	0.21	0.21	4.44	1.25	0.05	0.74	0.02	0.016 hexane
Worst Case Emissions	101.27	58.38	88.35	99.0	99.0	16.05	65.74	9.49	8.08 HCl
Fugitive Emissions									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.26	0.26	0.26	0	0	2.47	0.85	0.05	0.01 formaldehyde
Material Storage Piles	3.36	1.18	1.18	0	0	0	0	0	0
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	125.02	31.86	3.19	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	58.89	0	15.36	5.30 xylenes
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl.	0	negl.	negl.
Total Fugitive Emissions	147.73	40.62	10.65	0	0	61.36	0.85	15.41	5.30 xylenes
Total PTE of Entire Source	249.0	99.0	99.0	99.0	99.0	77.41	66.59	24.9	8.08 HCl
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA	NA	NA
negl. = negligible ¹ Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".									

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 Emissions										
Dryer Fuel Combustion (worst case) ⁽¹⁾	8.82 10.42	10.45	10.45	94.45	97.75	2.83	43.22	62,197.01	1.16 9.47	0.93 (hexane) 8.08 (HCl)
Dryer/Mixer ⁽²⁾ (Process)	101.14	58.17	88.14	5.50 29.00	27.50	16.00	65.00	16,626.00	4.41 5.33	1.55 (formaldehyde)
Dryer/Mixer Slag Processing ⁽³⁾	0	0	0	0.11	0	0	0	0	0	N/A
Hot Oil Heater Fuel Combustion (worst case)	0.13	0.21	0.21	4.44	1.25	0.05	0.74	1,414.19	0.02	0.016 (hexane)
Worst Case Emissions*	101.27	58.38	88.35	99.0	99.0	16.05	65.74	63,611.20	4.43 9.49	1.55 (formaldehyde) 8.08(HCl)
Fugitive Emissions										
Asphalt Load-Out and On-Site Yard ⁽³⁾	0.26	0.26	0.26	0	0	2.47	0.85	0	0.05	0.01 (formaldehyde)
Material Storage Piles	3.36	1.18	1.18	0	0	0	0	0	0	N/A
Material Processing and Handling ⁽³⁾	3.23	1.53	0.23	0	0	0	0	0	0	N/A
Material Screening, and Conveying ⁽³⁾	15.87	5.80	5.80	0	0	0	0	0	0	N/A
Unpaved and Paved Roads (worst case) ⁽¹⁾	125.02	31.86	3.19	0	0	0	0	0	0	N/A
Cold Mix Asphalt Production ⁽⁴⁾	0	0	0	0	0	58.89	0	0	15.36	5.30 (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	147.73	40.62	10.65	0	0	61.36	0.85	0	15.41	5.30 (xylenes)
Total Limited/Controlled Emissions										
Total Limited/Controlled Emissions	249.0	99.0	99.0	99.0	99.0	77.41	66.59	63,611.20	19.84 24.9	5.30 (xylenes) 8.08 (HCl)
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	N/A	N/A
Emission Offset/Nonattainment NSR Major Source Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
negl = negligible N/A = Not applicable HCL = hydrogen chloride * 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. *** 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).										

Process/ Emission Unit	Potential To Emit of the Entire Source after Issuance of the 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 Emissions										
Dryer Fuel Combustion (worst case) ⁽¹⁾	8.82	10.45	10.45	94.45	97.75	2.83	43.22	62,197.01	1.16	0.93 (hexane)
Dryer/Mixer ⁽²⁾ (Process)	101.14	58.17	88.14	5.50	27.50	16.00	65.00	16,626.00	4.41	1.55 (formaldehyde)
Dryer/Mixer Slag Processing ⁽³⁾	0	0	0	0.11	0	0	0	0	0	N/A
Hot Oil Heater Fuel Combustion (worst case)	0.13	0.21	0.21	4.44	1.25	0.05	0.74	1,414.19	0.02	0.016 (hexane)
Worst Case Emissions*	101.27	58.38	88.35	99.0	99.0	16.05	65.74	63,611.20	4.43	1.55 (formaldehyde)
Fugitive Emissions										
Asphalt Load-Out and On-Site Yard ⁽³⁾	0.26	0.26	0.26	0	0	2.47	0.85	0	0.05	0.01 (formaldehyde)
Material Storage Piles	3.36	1.18	1.18	0	0	0	0	0	0	N/A
Material Processing and Handling ⁽³⁾	3.23	1.53	0.23	0	0	0	0	0	0	N/A
Material Screening, and Conveying ⁽³⁾	15.87	5.80	5.80	0	0	0	0	0	0	N/A
Unpaved and Paved Roads (worst case) ⁽¹⁾	125.02	31.86	3.19	0	0	0	0	0	0	N/A
Cold Mix Asphalt Production ⁽⁴⁾	0	0	0	0	0	58.89	0	0	15.36	5.30 (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	147.73	40.62	10.65	0	0	61.36	0.85	0	15.41	5.30 (xylenes)
Total Limited/Controlled Emissions	249.0	99.0	99.0	99.0	99.0	77.41	66.59	63,611.20	19.84	5.30 (xylenes)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000 CO ₂ e	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000 CO ₂ e	N/A	N/A
Emission Offset/Nonattainment NSR Major Source Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
negl = negligible N/A = Not applicable HCL = hydrogen chloride * 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).										

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

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 10/3/2011

Drum-mix Asphalt Plant Maximum Capacity

Maximum Hourly Asphalt Production =	400	ton/hr									
Maximum Annual Asphalt Production =	3,504,000	ton/yr									
Maximum Annual Slag Usage =	1,471,680	ton/yr	1.50	% sulfur							
Maximum Dryer Fuel Input Rate =	120.0	MMBtu/hr									
Natural Gas Usage =	1,051	MMCF/yr									
No. 2 Fuel Oil Usage =	7,508,571	gal/yr, and	0.50	% sulfur							
No. 4 Fuel Oil Usage =	7,508,571	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 Slag SO2 Dryer/Mixer Emission Factor =	0.0014	lb/ton of slag processed									

Unlimited/Uncontrolled Emissions

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants							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)	26.28	31.16	31.16	281.57	176.45	2.89	44.15	90,979.90	1.62	0.95 (hexane)
Dryer/Mixer (Process)	49,056.00	11,388.00	2,628.00	19.27	96.36	56.06	227.76	58,257.50	15.44	5.43 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	1.03	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.13	0.21	0.21	4.44	1.25	0.05	0.74	1,414.19	0.020	0.016 (hexane)
Worst Case Emissions*	49,056.13	11,388.21	2,628.21	287.04	177.70	56.11	228.50	92,394.09	15.46	5.43 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out and On-Site Yard	0.91	0.91	0.91	0	0	8.66	2.98	0	0.18	0.04 (formaldehyde)
Material Storage Piles	3.36	1.18	1.18	0	0	0	0	0	0	0
Material Processing and Handling	11.32	5.35	0.81	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	55.59	20.31	20.31	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	124.42	31.71	3.17	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	42,109.32	0	0	10,983.67	3,789.84 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	0 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0
Total Fugitive Emissions	195.61	59.46	26.38	0	0	42,117.98	2.98	0	10,983.85	3,789.84 (xylenes)
Totals Unlimited/Uncontrolled PTE	49,251.73	11,447.67	2,654.58	287.04	177.70	42,174.09	231.48	92,394.09	10,999.31	3,789.84 (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.1: Unlimited Emissions Calculations
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/hr**

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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 =	400	ton/hr
Maximum Annual Asphalt Production =	3,504,000	ton/yr
Maximum Fuel Input Rate =	120	MMBtu/hr
Natural Gas Usage =	1,051	MMCF/yr
No. 2 Fuel Oil Usage =	7,508,571	gal/yr, and
No. 4 Fuel Oil Usage =	7,508,571	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	1.00	7.51	26.28	0	0	0	0	26.28
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	0	3.99	12.39	31.16	0	0	0	0	31.16
SO2	0.6	71.0	75.0	0	0	0	0	0.32	266.55	281.57	0	0	0	0	281.57
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	99.86	90.10	176.45	0	0	0	0	176.45
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.89	0.75	0.75	0	0	0	0	2.89
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	44.1504	18.77	18.77	0	0	0	0	44.15
Hazardous Air Pollutant															
HCl							0								0
Antimony			5.25E-03	5.25E-03			0								0
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			negl	1.1E-04	2.10E-03	4.86E-03	0				2.0E-02
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	6.3E-06	1.58E-03	1.04E-04	0				5.0E-03
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	5.8E-04	1.58E-03	1.49E-03	0				1.6E-03
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	7.4E-04	1.58E-03	3.17E-03	0				3.2E-03
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	4.4E-05		2.26E-02	0				2.3E-02
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0	2.6E-04	4.73E-03	5.67E-03	0				0.01
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	2.0E-04	3.15E-03	1.13E-02	0				0.01
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.4E-04	1.58E-03	4.24E-04	0				1.6E-03
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	1.1E-03	1.58E-03	3.17E-01	0				0.317
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.3E-05	7.88E-03	2.56E-03	0				7.9E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						8.86E-04	0				8.9E-04
1,3-Butadiene															0
Acetaldehyde															0
Acrolein															0
Benzenes	2.1E-03		2.14E-04	2.14E-04				1.1E-03		8.03E-04	0				1.1E-03
Bis(2-ethylhexyl)phthalate							2.2E-03								0
Dichlorobenzene	1.2E-03						8.0E-07	6.3E-04							6.3E-04
Ethylbenzene			6.36E-05	6.36E-05						2.39E-04	0				2.4E-04
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.9E-02	2.29E-01	1.24E-01	0				0.229
Hexane	1.8E+00							0.95							0.946
Phenol							2.4E-03								0
Toluene	3.4E-03		6.20E-03	6.20E-03				1.8E-03		2.33E-02	0				2.3E-02
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		4.24E-03	0				4.2E-03
Polycyclic Organic Matter		3.30E-03							1.24E-02						1.2E-02
Xylene			1.09E-04	1.09E-04						4.09E-04	0				4.1E-04
Total HAPs								0.99	0.27	0.54	0	0	0	0	1.62

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)] * [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)

*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 = Nitrogen 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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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 =	400	ton/hr								
Maximum Annual Asphalt Production =	3,504,000	ton/yr								
Maximum Fuel Input Rate =	120	MMBtu/hr								
Natural Gas Usage =	1,051	MMCF/yr								
No. 2 Fuel Oil Usage =	7,508.571	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage =	7,508.571	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

CO2e 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
CO2	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
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	21
N2O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N ₂ O	310

CO2e 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)
CO2	63,157.06	84,476.72	90679.00	0	0	0	0
CH4	1.31	3.43	3.63	0	0	0	0
N2O	1.16	0.98	0.73	0	0	0	0
Total	63,159.53	84,481.13	90,683.36	0	0	0	0

CO2e for Worst Case Fuel* (tons/yr)
90,979.90

CO2e Equivalent Emissions (tons/yr)	63,543.05	84,851.29	90,979.90	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/MMC)
 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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 10/3/2011

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

Maximum Hourly Asphalt Production = 400 ton/hr
 Maximum Annual Asphalt Production = 3,504,000 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	49,056.0	49,056.0	0	49,056.0
PM10*	6.5	6.5	6.5	11,388.0	11,388.0	0	11,388.0
PM2.5*	1.5	1.5	1.5	2,628.0	2,628.0	0	2,628.0
SO2**	0.0034	0.011	0.058	6.0	19.3	0	19.3
NOx**	0.026	0.055	0.055	45.6	96.4	0	96.4
VOC**	0.032	0.032	0.032	56.1	56.1	0	56.1
CO***	0.13	0.13	0.13	227.8	227.8	0	227.8
Hazardous Air Pollutant							
HCl			2.10E-04			0	0
Antimony	1.80E-07	1.80E-07	1.80E-07	3.15E-04	3.15E-04	0	3.15E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	9.81E-04	9.81E-04	0	9.81E-04
Beryllium	negl	negl	negl	negl	negl	0	0
Cadmium	4.10E-07	4.10E-07	4.10E-07	7.18E-04	7.18E-04	0	7.18E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	9.64E-03	9.64E-03	0	9.64E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	4.56E-05	4.56E-05	0	4.56E-05
Lead	6.20E-07	1.50E-05	1.50E-05	1.09E-03	2.63E-02	0	2.63E-02
Manganese	7.70E-06	7.70E-06	7.70E-06	1.35E-02	1.35E-02	0	1.35E-02
Mercury	2.40E-07	2.60E-06	2.60E-06	4.20E-04	4.56E-03	0	4.56E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	0.11	0.11	0	0.11
Selenium	3.50E-07	3.50E-07	3.50E-07	6.13E-04	6.13E-04	0	6.13E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.07	0.07	0	0.07
Acetaldehyde			1.30E-03			0	0
Acrolein			2.60E-05			0	0
Benzene	3.90E-04	3.90E-04	3.90E-04	0.68	0.68	0	0.68
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.42	0.42	0	0.42
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	5.43	5.43	0	5.43
Hexane	9.20E-04	9.20E-04	9.20E-04	1.61	1.61	0	1.61
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.08	0.08	0	0.08
MEK			2.00E-05			0	0
Propionaldehyde			1.30E-04			0	0
Quinone			1.60E-04			0	0
Toluene	1.50E-04	2.90E-03	2.90E-03	0.26	5.08	0	5.08
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.33	1.54	0	1.54
Xylene	2.00E-04	2.00E-04	2.00E-04	0.35	0.35	0	0.35
Total HAPs							15.44
Worst Single HAP							5.43 (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
 HCl = Hydrogen Chloride
 SO2 = Sulfur Dioxide
 HAP = Hazardous Air Pollutant
 PAH = Polyaromatic Hydrocarbon

**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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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			Greenhouse Gas Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Drum-Mix Plant			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	57,816.00	57,816.00	0	58,257.50
CH ₄	0.0120	0.0120	0.0120	21	21.02	21.02	0	
N ₂ O				310	0	0	0	
Total					57,837.02	57,837.02	0	
CO₂e Equivalent Emissions (tons/yr)					58,257.50	58,257.50	0	

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 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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 10/3/2011

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

Maximum Annual Slag Usage* = ton/yr % sulfur

	Emission Factor (lb/ton)**	Unlimited Potential to Emit (tons/yr)
Criteria Pollutant	Slag Processing	Slag Processing
SO2	0.0014	1.03

Methodology

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

** 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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 10/3/2011

Maximum Hot Oil Heater Fuel Input Rate = 2.00 MMBtu/hr
 Natural Gas Usage = 17.5 MMCF/yr
 No. 2 Fuel Oil Usage = 125,143 gal/yr, and 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	0.017	0.125	0.13
PM10/PM2.5	7.6	3.3	0.067	0.206	0.21
SO2	0.6	71.0	0.005	4.443	4.44
NOx	100	20.0	0.876	1.251	1.25
VOC	5.5	0.20	0.048	0.013	0.05
CO	84	5.0	0.736	0.313	0.74
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.8E-06	3.50E-05	3.5E-05
Beryllium	1.2E-05	4.2E-04	1.1E-07	2.63E-05	2.6E-05
Cadmium	1.1E-03	4.2E-04	9.6E-06	2.63E-05	2.6E-05
Chromium	1.4E-03	4.2E-04	1.2E-05	2.63E-05	2.6E-05
Cobalt	8.4E-05		7.4E-07		7.4E-07
Lead	5.0E-04	1.3E-03	4.4E-06	7.88E-05	7.9E-05
Manganese	3.8E-04	8.4E-04	3.3E-06	5.26E-05	5.3E-05
Mercury	2.6E-04	4.2E-04	2.3E-06	2.63E-05	2.6E-05
Nickel	2.1E-03	4.2E-04	1.8E-05	2.63E-05	2.6E-05
Selenium	2.4E-05	2.1E-03	2.1E-07	1.31E-04	1.3E-04
Benzene	2.1E-03		1.8E-05		1.8E-05
Dichlorobenzene	1.2E-03		1.1E-05		1.1E-05
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	6.6E-04	3.82E-03	3.8E-03
Hexane	1.8E+00		0.02		1.6E-02
Phenol					0
Toluene	3.4E-03		3.0E-05		3.0E-05
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		2.06E-04	2.1E-04
Total HAPs =			1.7E-02	4.5E-03	0.020

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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 10/3/2011

Maximum Hot Oil Heater Fuel Input Rate =

2.00	MMBtu/hr
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 Natural Gas Usage =

17.52	MMCF/yr
-------	---------

 No. 2 Fuel Oil Usage =

125,142.86	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) 1,414.19
	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	1,052.62	1,407.95	
CH ₄	2.49	0.91	21	0.02	0.06	
N ₂ O	2.2	0.26	310	0.02	0.02	
				1,052.66	1,408.02	
CO₂e Equivalent Emissions (tons/yr)				1,059.05	1,414.19	No. 2 Fuel Oil

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
 No. 2 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been
 Propane: Emission Factor for CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from
 Butane: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been
 Emission Factor (EF) Conversions
 Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of
 Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor
 Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) +

Abbreviations

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

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

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 10/3/2011

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

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	3,504,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Load-Out	On-Site Yard	Load-Out	On-Site Yard	Total
Total PM*	5.2E-04	NA	0.91	NA	0.91
Organic PM	3.4E-04	NA	0.60	NA	0.60
TOC	0.004	0.001	7.29	1.927	9.2
CO	0.001	3.5E-04	2.36	0.617	2.98

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

PM/HAPs	0.042	0	0.042
VOC/HAPs	0.108	0.028	0.136
non-VOC/HAPs	5.6E-04	1.5E-04	7.1E-04
non-VOC/non-HAPs	0.53	0.14	0.67

Total VOCs	6.85	1.8	8.7
Total HAPs	0.15	0.029	0.18
Worst Single HAP			0.038
			(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}

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 and Yard Emissions (continued)**

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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)	Load-out	Onsite Yard	Total
PAH HAPs								
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	1.6E-03	NA	1.6E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	1.7E-04	NA	1.7E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	4.2E-04	NA	4.2E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	1.1E-04	NA	1.1E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	4.5E-05	NA	4.5E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	1.3E-05	NA	1.3E-05
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	1.1E-05	NA	1.1E-05
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	1.4E-05	NA	1.4E-05
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	4.7E-05	NA	4.7E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	6.2E-04	NA	6.2E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	2.2E-06	NA	2.2E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	3.0E-04	NA	3.0E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	4.6E-03	NA	4.6E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	2.8E-06	NA	2.8E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	1.4E-02	NA	0.014
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	7.5E-03	NA	7.5E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	1.3E-04	NA	1.3E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	4.8E-03	NA	4.8E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	9.0E-04	NA	9.0E-04
Total PAH HAPs						0.035	NA	0.035
Other semi-volatile HAPs								
Phenol		PM/HAP	---	Organic PM	1.18%	7.0E-03	0	7.0E-03

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

Methodology

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

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

Abbreviations

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile	Unlimited/Uncontrolled Potential to Emit (tons/yr)		
					Load-out and Onsite Yard (% by weight of TOC)	Load-out	Onsite Yard	Total
VOC		VOC	---	TOC	94%	6.85	1.81	8.66
non-VOC/non-HAPS								
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	4.7E-01	1.3E-01	0.599
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	3.4E-03	8.9E-04	0.004
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	5.2E-02	1.4E-02	0.065
Total non-VOC/non-HAPS					7.30%	0.532	0.141	0.67
Volatile organic HAPs								
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	3.8E-03	1.0E-03	4.8E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	7.0E-04	1.9E-04	8.8E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	3.6E-03	9.4E-04	4.5E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	9.5E-04	2.5E-04	1.2E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	1.5E-05	4.0E-06	1.9E-05
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	1.1E-03	2.9E-04	1.4E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	8.0E-03	2.1E-03	1.0E-02
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	2.0E-02	5.4E-03	0.026
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	6.4E-03	1.7E-03	0.008
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	1.1E-02	2.9E-03	0.014
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	1.3E-04	3.5E-05	1.7E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0	0	0.0E+00
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	5.3E-04	1.4E-04	6.7E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	5.6E-04	1.5E-04	7.1E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	1.5E-02	4.0E-03	0.019
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	9.5E-05	2.5E-05	1.2E-04
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	3.0E-02	7.9E-03	0.038
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	5.8E-03	1.5E-03	7.4E-03
Total volatile organic HAPs					1.50%	0.109	0.029	0.138

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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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 = 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	1.50	0.824	0.288
Limestone	1.6	1.85	1.50	0.507	0.177
RAP	0.5	0.58	1.50	0.158	0.055
Gravel	1.6	1.85	1.50	0.507	0.177
Shingles	0.5	0.58	1.50	0.158	0.055
Slag	3.8	4.40	1.50	1.204	0.421
Totals				3.36	1.18

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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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.

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

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

Maximum Annual Asphalt Production = 3,504,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 3,328,800 tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	3.77	1.78	0.27
Front-end loader dumping of materials into feeder bins	3.77	1.78	0.27
Conveyor dropping material into dryer/mixer or batch tower	3.77	1.78	0.27
Total (tons/yr)	11.32	5.35	0.81

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	8.99	3.99
Screening	0.025	0.0087	41.61	14.48
Conveying	0.003	0.0011	4.99	1.83
Unlimited Potential to Emit (tons/yr) =			55.59	20.31

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 um)
 PM2.5 = Particulate matter (< 2.5 um)
 PTE = Potential to Emit

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

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	3,328,800	tons/yr
Maximum Asphalt Cement/Binder Throughput	175,200	tons/yr
Maximum No. 2 Fuel Oil Usage	7,508,571	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	1.5E+05	5.9E+06	300	0.057	8443.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	300	0.057	8443.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	4.9E+03	2.3E+05	300	0.057	276.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	4.9E+03	5.8E+04	300	0.057	276.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	7.9E+02	3.5E+04	300	0.057	45.1
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	7.9E+02	9.5E+03	300	0.057	45.1
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	7.9E+05	1.5E+07	300	0.057	45032.5
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	7.9E+05	1.2E+07	300	0.057	45032.5
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.5E+05	6.0E+06	300	0.057	8295.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	300	0.057	8295.5
Total						2.2E+06	4.4E+07		1.2E+05

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

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

	PM	PM10	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 =	20.3	20.3	20.3	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, $E_{ext} = E_f \cdot [(365 - P)/365]$
 Mitigated Emission Factor, $E_{ext} = E_f \cdot [(365 - P)/365]$
 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	6.09	1.55	0.16	lb/mile
Mitigated Emission Factor, E_{ext}	4.01	1.02	0.10	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)	25.73	6.56	0.66	16.92	4.31	0.43	8.46	2.16	0.22
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	25.73	6.56	0.66	16.92	4.31	0.43	8.46	2.16	0.22
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.843	0.215	0.02	0.554	0.141	0.01	0.277	0.071	0.01
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.843	0.215	0.02	0.554	0.141	0.01	0.277	0.071	0.01
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.137	0.035	0.00	0.090	0.023	0.00	0.045	0.012	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.137	0.035	0.00	0.090	0.023	0.00	0.045	0.012	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	137.23	34.98	3.50	90.24	23.00	2.30	45.12	11.50	1.15
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	137.23	34.98	3.50	90.24	23.00	2.30	45.12	11.50	1.15
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	25.28	6.44	0.64	16.62	4.24	0.42	8.31	2.12	0.21
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	25.28	6.44	0.64	16.62	4.24	0.42	8.31	2.12	0.21
Totals		378.45	96.45	9.65	248.84	63.42	6.34	124.42	31.71	3.17

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: Emissions Calculations
Paved Roads
Unlimited Emissions**

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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	= 3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	= 5.0%	
Maximum Material Handling Throughput	= 3,328,800	tons/yr
Maximum Asphalt Cement/Binder Throughput	= 175,200	tons/yr
Maximum No. 2 Fuel Oil Usage	= 7,508,571	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	1.5E+05	5.9E+06	300	0.057	8443.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	300	0.057	8443.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	4.9E+03	2.3E+05	300	0.057	276.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	4.9E+03	5.8E+04	300	0.057	276.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	7.9E+02	3.5E+04	300	0.057	45.1
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	7.9E+02	9.5E+03	300	0.057	45.1
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	7.9E+05	1.5E+07	300	0.057	45032.5
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	7.9E+05	1.2E+07	300	0.057	45032.5
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	1.5E+05	6.0E+06	300	0.057	8295.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	300	0.057	8295.5
Total					2.2E+06	4.4E+07			1.2E+05

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

Unmitigated Emission Factor, Ef = [k * (sL2)^0.65 * (W/3)^1.5 - C] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	0.00036	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	0.6	g/m 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 =	0.66	0.13	0.02	lb/mile
Mitigated Emission Factor, Eext =	0.60	0.12	0.02	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	2.78	0.54	0.08	2.54	0.49	0.07	1.27	0.25	0.04
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	2.78	0.54	0.08	2.54	0.49	0.07	1.27	0.25	0.04
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.091	0.018	2.6E-03	0.083	0.016	2.4E-03	0.042	8.1E-03	1.2E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.091	0.018	2.6E-03	0.083	0.016	2.4E-03	0.042	8.1E-03	1.2E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.5E-02	2.9E-03	4.3E-04	1.4E-02	2.6E-03	3.9E-04	6.8E-03	1.3E-03	1.9E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.5E-02	2.9E-03	4.3E-04	1.4E-02	2.6E-03	3.9E-04	6.8E-03	1.3E-03	1.9E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	14.81	2.88	0.43	13.54	2.63	0.39	6.77	1.32	0.19
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	14.81	2.88	0.43	13.54	2.63	0.39	6.77	1.32	0.19
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	2.73	0.53	0.08	2.49	0.49	0.07	1.25	0.24	0.04
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	2.73	0.53	0.08	2.49	0.49	0.07	1.25	0.24	0.04
Totals		40.84	7.95	1.17	37.34	7.27	1.07	18.67	3.63	0.54

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 Vehicle and 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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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 =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Asphalt Cement/Binder Throughput =	175,200	tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Usage (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	44325.6	42109.3
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	50107.2	35075.0
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	35040.0	8760.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	26280.0	12193.9
Other asphalt with solvent binder	25.9%	2.5%	45376.8	1134.4
Worst Case PTE of VOC =				42109.3

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) =	10983.67
PTE of Single HAP (tons/yr) =	3789.84 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

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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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:

$$\begin{aligned} \text{Gasoline Throughput} &= \boxed{0} \text{ gallons/day} \\ &= \boxed{0.0} \text{ kgal/yr} \end{aligned}$$

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.00
Tank breathing and emptying	1.0	0.00
Vehicle refueling (displaced losses - controlled)	1.1	0.00
Spillage	0.7	0.00
Total		0.00

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) =	0.00
Limited PTE of Single HAP (tons/yr) =	0.00 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/tp.htm>

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

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

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 10/3/2011

Asphalt Plant Limitations

Maximum Hourly Asphalt Production =	400	ton/hr									
Annual Asphalt Production Limitation =	1,000,000	ton/yr									
Slag Usage Limitation =	150,000	ton/yr	1.50	% sulfur							
Natural Gas Limitation =	1,028.93	MMCF/yr									
No. 2 Fuel Oil Limitation =	2,660,632	gal/yr, and	0.50	% sulfur							
No. 4 Fuel Oil Limitation =	2,518,731	gal/yr, and	0.50	% 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 =	0.202	lb/ton of asphalt production									
PM10 Dryer/Mixer Limitation =	0.116	lb/ton of asphalt production									
PM2.5 Dryer/Mixer Limitation =	0.176	lb/ton of asphalt production									
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production									
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production									
Slag SO2 Dryer/Mixer Limitation =	0.0014	lb/ton of slag processed									
Cold Mix Asphalt VOC Usage Limitation =	58.9	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 ₂ e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	8.82	10.45	10.45	94.45	97.75	2.83	43.22	62,197.01	1.16	0.93 (hexane)
Dryer/Mixer (Process)	101.14	58.17	88.14	5.50	27.50	16.00	65.00	16,626.00	4.41	1.55 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	0.11	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.13	0.21	0.21	4.44	1.25	0.05	0.74	1,414.19	0.02	0.016 (hexane)
Worst Case Emissions*	101.27	58.38	88.35	99.00	99.00	16.05	65.74	63,611.20	4.43	1.55 (formaldehyde)
Fugitive Emissions										
Asphalt Load-Out and On-Site Yard	0.26	0.26	0.26	0	0	2.47	0.85	0	0.05	0.01 (formaldehyde)
Material Storage Piles	3.36	1.18	1.18	0	0	0	0	0	0	0
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	125.02	31.86	3.19	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	58.89	0	0	15.36	5.30 (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	147.73	40.62	10.65	0	0	61.36	0.85	0	15.41	5.30 (xylenes)
Totals Limited/Controlled Emissions	249.00	99.00	99.00	99.00	99.00	77.41	66.59	63,611.20	19.84	5.30 (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 Summary
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/hr

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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 =	400	ton/hr
Annual Asphalt Production Limitation =	1,000,000	ton/yr
Natural Gas Limitation =	1,029	MMCF/yr
No. 2 Fuel Oil Limitation =	2,660,632	gal/yr, and
No. 4 Fuel Oil Limitation =	2,518,731	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
	0.50	% sulfur
	0.50	% sulfur
	0	% sulfur
	0	gr/100 ft3 sulfur
	0	gr/100 ft3 sulfur
	0	% sulfur
	0	% ash
	0	% chlorine
	0	% lead

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	7	3.22	0.5	0.6	0	0.98	2.66	8.82	0	0	0	0	8.82
PM10	7.6	3.3	8.3	4.72	0.5	0.6	0	3.91	4.39	10.45	0	0	0	0	10.45
SO2	0.6	71.0	75.0	0	0	0	0	0.31	94.45	94.45	0	0	0	0	94.45
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	97.75	31.93	59.19	0	0	0	0	97.75
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.83	0.27	0.25	0	0	0	0	2.83
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	43.22	6.65	6.30	0	0	0	0	43.22
Hazardous Air Pollutant															
HCl							0.0								0
Antimony			5.25E-03	5.25E-03			negl			6.61E-03	0			0	6.6E-03
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	1.0E-04	7.45E-04	1.66E-03	0			0	1.7E-03
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	6.2E-06	5.59E-04	3.50E-05	0			0	5.6E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	5.7E-04	5.59E-04	5.01E-04	0			0	5.7E-04
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	7.2E-04	5.59E-04	1.06E-03	0			0	1.1E-03
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	4.3E-05		7.59E-03	0			0	7.6E-03
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0	2.6E-04	1.68E-03	1.90E-03	0			0	1.9E-03
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	2.0E-04	1.12E-03	3.78E-03	0			0	3.8E-03
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.3E-04	5.59E-04	1.42E-04	0			0	5.6E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	1.1E-03	5.59E-04	1.06E-01	0			0	0.106
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.2E-05	2.79E-03	8.60E-04	0			0	2.8E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						2.97E-04	0			0	3.0E-04
1,3-Butadiene															0
Acetaldehyde															0
Acrolein															0
Benzene	2.1E-03		2.14E-04	2.14E-04				1.1E-03		2.70E-04	0			0	1.1E-03
Bis(2-ethylhexyl)phthalate							2.2E-03							0	0
Dichlorobenzene	1.2E-03						8.0E-07	6.2E-04						0	6.2E-04
Ethylbenzene			6.36E-05	6.36E-05						8.01E-05	0			0	8.0E-05
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.9E-02	8.11E-02	4.16E-02	0			0	0.081
Hexane	1.8E+00							0.93						0	0.926
Phenol							2.4E-03							0	0
Toluene	3.4E-03		6.20E-03	6.20E-03				1.7E-03		7.81E-03	0			0	7.8E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		1.42E-03	0			0	1.4E-03
Polycyclic Organic Matter		3.30E-03							4.39E-03		0			0	4.4E-03
Xylene			1.09E-04	1.09E-04						1.37E-04	0			0	1.4E-04
Total HAPs								0.97	0.09	0.18	0	0	0	0	1.16
															0.93

(hexane) = "Worst" single HAP

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 = Nitrogen Oxides
 VOC = Volatile Organic Compounds
 CO = Carbon Monoxide

HAP = Hazardous Air Pollutant
 HCl = Hydrogen Chloride
 PAH = Polycyclic Aromatic 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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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 =	400	ton/hr						
Annual Asphalt Production Limitation =	1,000,000	ton/yr						
Natural Gas Limitation =	1,029	MMCF/yr						
No. 2 Fuel Oil Limitation =	2,660,632	gal/yr, and	0.50	% sulfur				
No. 4 Fuel Oil Limitation =	2,518,731	gal/yr, and	0.50	% 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	61,819.20	29,933.98	30,418.04	0	0	0	0
CH ₄	1.28	1.21	1.22	0	0	0	0
N ₂ O	1.13	0.35	0.24	0	0	0	0
Total	61,821.62	29,935.54	30,419.50	0	0	0	0

CO₂e for Worst Case Fuel* (tons/yr)
62,197.01

CO ₂ e Equivalent Emissions (tons/yr)	62,197.01	30,066.71	30,518.98	0	0	0	0
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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/kgal)]

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 Summary
Dryer/Mixer Process**

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 10/3/2011

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

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	1,000,000	ton/yr
PM Dryer/Mixer Limitation =	0.202	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.116	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.176	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	0.202	0.202	0.202	101.1	101.1	0	101.1
PM10*	0.116	0.116	0.116	58.2	58.2	0	58.2
PM2.5*	0.176	0.176	0.176	88.1	88.1	0	88.1
SO2**	0.003	0.011	0.058	1.7	5.5	0	5.5
NOx**	0.026	0.055	0.055	13.0	27.5	0	27.5
VOC**	0.032	0.032	0.032	16.0	16.0	0	16.0
CO***	0.130	0.130	0.130	65.0	65.0	0	65.0
Hazardous Air Pollutant							
HCl			2.10E-04			0	0
Antimony	1.80E-07	1.80E-07	1.80E-07	9.00E-05	9.00E-05	0	9.00E-05
Arsenic	5.60E-07	5.60E-07	5.60E-07	2.80E-04	2.80E-04	0	2.80E-04
Beryllium	negl	negl	negl	negl	negl	0	0
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.05E-04	2.05E-04	0	2.05E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	2.75E-03	2.75E-03	0	2.75E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.30E-05	1.30E-05	0	1.30E-05
Lead	6.20E-07	1.50E-05	1.50E-05	3.10E-04	7.50E-03	0	7.50E-03
Manganese	7.70E-06	7.70E-06	7.70E-06	3.85E-03	3.85E-03	0	3.85E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	1.20E-04	1.30E-03	0	1.30E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	3.15E-02	3.15E-02	0	0.03
Selenium	3.50E-07	3.50E-07	3.50E-07	1.75E-04	1.75E-04	0	1.75E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	2.00E-02	2.00E-02	0	0.02
Acetaldehyde			1.30E-03			0	0
Acrolein			2.60E-05			0	0
Benzene	3.90E-04	3.90E-04	3.90E-04	0.20	0.20	0	0.20
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.12	0.12	0	0.12
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	1.55	1.55	0	1.55
Hexane	9.20E-04	9.20E-04	9.20E-04	0.46	0.46	0	0.46
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.02	0.02	0	0.02
MEK			2.00E-05			0	0
Propionaldehyde			1.30E-04			0	0
Quinone			1.60E-04			0	0
Toluene	1.50E-04	2.90E-03	2.90E-03	0.08	1.45	0	1.45
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.10	0.44	0	0.44
Xylene	2.00E-04	2.00E-04	2.00E-04	0.10	0.10	0	0.10
Total HAPs							4.41
Worst Single HAP							1.55 (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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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 Drum-Mix Plant (dryer/mixer)			Greenhouse Gas Global Warming Potentials (GWP)	Limited Potential to Emit Drum-Mix Plant (dryer/mixer)			CO2e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO2	33	33	33	1	16,500.00	16,500.00	0	16,626.00
CH4	0.0120	0.0120	0.0120	21	6.00	6.00	0	
N2O				310	0	0	0	
Total					16,506.00	16,506.00	0	
CO2e Equivalent Emissions (tons/yr)					16,626.00	16,626.00	0	

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 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

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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 10/3/2011

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

Slag Usage Limitation =

150,000

 ton/yr
 SO2 Slag Limitation =

0.0014

 lb/ton of slag processed

1.50

 % sulfur

	Emission Factor or Limitation (lb/ton)*	Limited Potential to Emit (tons/yr)
Criteria Pollutant	Slag Processing	Slag Processing
SO2	0.001	0.105

Methodology

** 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) = (Slag Usage Limitation (ton/yr)) * [Limited Emission Factor (lb/ton)] * [ton/2000 lbs]

Abbreviations

SO2 = Sulfur Dioxide

Appendix A.2: Limited Emissions Summary

**Hot Oil Heater
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 10/3/2011

Maximum Hot Oil Heater Fuel Input Rate = 2.00 MMBtu/hr
 Natural Gas Usage = 17.5 MMCF/yr
 No. 2 Fuel Oil Usage = 125,143 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	0.017	0.125	0.13
PM10/PM2.5	7.6	3.3	0.067	0.206	0.21
SO2	0.6	71.0	0.005	4.443	4.44
NOx	100	20.0	0.876	1.251	1.25
VOC	5.5	0.20	0.048	0.013	0.05
CO	84	5.0	0.736	0.313	0.74
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.8E-06	3.50E-05	3.5E-05
Beryllium	1.2E-05	4.2E-04	1.1E-07	2.63E-05	2.6E-05
Cadmium	1.1E-03	4.2E-04	9.6E-06	2.63E-05	2.6E-05
Chromium	1.4E-03	4.2E-04	1.2E-05	2.63E-05	2.6E-05
Cobalt	8.4E-05		7.4E-07		7.4E-07
Lead	5.0E-04	1.3E-03	4.4E-06	7.88E-05	7.9E-05
Manganese	3.8E-04	8.4E-04	3.3E-06	5.26E-05	5.3E-05
Mercury	2.6E-04	4.2E-04	2.3E-06	2.63E-05	2.6E-05
Nickel	2.1E-03	4.2E-04	1.8E-05	2.63E-05	2.6E-05
Selenium	2.4E-05	2.1E-03	2.1E-07	1.31E-04	1.3E-04
Benzene	2.1E-03		1.8E-05		1.8E-05
Dichlorobenzene	1.2E-03		1.1E-05		1.1E-05
Formaldehyde	7.5E-02	6.10E-02	6.6E-04	3.82E-03	0.004
Hexane	1.8E+00		0.02		0.016
Toluene	3.4E-03		3.0E-05		3.0E-05
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		2.06E-04	2.1E-04
Total HAPs =			1.7E-02	4.5E-03	0.020

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 Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 10/3/2011

Maximum Hot Oil Heater Fuel Input Rate = 2.00 MMBtu/hr
 Natural Gas Usage = 17.52 MMCF/yr
 No. 2 Fuel Oil Usage = 125,142.86 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Greenhouse Gas Global Warming Potentials (GWP)	Potential to Emit (tons/yr)		Worse Case CO ₂ e Emissions (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	1,052.62	1,407.95		1,414.19
CH ₄	2.49	0.91	21	0.022	5.71E-02		
N ₂ O	2.20	0.26	310	0.019	1.63E-02		
Total				1,052.66	1,408.02		

CO₂e Equivalent Emissions (tons/yr)		1,059.05	1,414.19
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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

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

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

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] * [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

CH₄ = Methane

CO₂ = Carbon Dioxide

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Asphalt Load-Out and Yard Emissions**

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 10/3/2011

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

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

Pollutant	Emission Factor (lb/ton asphalt)		Limited Potential to Emit (tons/yr)		
	Load-Out	On-Site Yard	Load-Out	On-Site Yard	Total
Total PM*	5.2E-04	NA	0.26	NA	0.26
Organic PM	3.4E-04	NA	0.17	NA	0.17
TOC	0.004	0.001	2.08	0.550	2.6
CO	0.001	3.5E-04	0.67	0.176	0.85

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

PM/HAPs	0.012	0	0.012
VOC/HAPs	0.031	0.008	0.039
non-VOC/HAPs	1.6E-04	4.2E-05	2.0E-04
non-VOC/non-HAPs	0.15	0.04	0.19

Total VOCs	1.95	0.5	2.5
Total HAPs	0.04	0.008	0.05
	Worst Single HAP		0.011
			(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)::

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

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

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

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

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 Summary
Asphalt Load-Out and Yard Emissions (continued)**

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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)	Load-out	Onsite Yard	Total
PAH HAPs								
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	4.4E-04	NA	4.4E-04
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	4.8E-05	NA	4.8E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	1.2E-04	NA	1.2E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	3.2E-05	NA	3.2E-05
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	1.3E-05	NA	1.3E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	3.8E-06	NA	3.8E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	3.2E-06	NA	3.2E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	3.9E-06	NA	3.9E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	1.3E-05	NA	1.3E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	1.8E-04	NA	1.8E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	6.3E-07	NA	6.3E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	8.5E-05	NA	8.5E-05
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.3E-03	NA	1.3E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	8.0E-07	NA	8.0E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	4.1E-03	NA	0.004
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	2.1E-03	NA	2.1E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	3.8E-05	NA	3.8E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.4E-03	NA	1.4E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	2.6E-04	NA	2.6E-04
Total PAH HAPs						0.010	NA	0.010
Other semi-volatile HAPs								
Phenol		PM/HAP	---	Organic PM	1.18%	2.0E-03	0	2.0E-03

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

Methodology

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

Abbreviations

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

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile	Limited Potential to Emit (tons/yr)		
					Load-out and Onsite Yard (% by weight of TOC)	Load-out	Onsite Yard	Total
VOC		VOC	---	TOC	94%	1.95	0.52	2.47
non-VOC/non-HAPS								
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	1.4E-01	3.6E-02	0.171
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	9.6E-04	2.5E-04	0.001
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.5E-02	3.9E-03	0.019
Total non-VOC/non-HAPS					7.30%	0.152	0.040	0.19
Volatile organic HAPs								
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	1.1E-03	2.9E-04	1.4E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	2.0E-04	5.3E-05	2.5E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	1.0E-03	2.7E-04	1.3E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	2.7E-04	7.2E-05	3.4E-04
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	4.4E-06	1.2E-06	5.5E-06
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	3.1E-04	8.3E-05	3.9E-04
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	2.3E-03	6.1E-04	2.9E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	5.8E-03	1.5E-03	0.007
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	1.8E-03	4.8E-04	0.002
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	3.1E-03	8.3E-04	0.004
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	3.7E-05	9.9E-06	4.7E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0	0	0.0E+00
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	1.5E-04	4.0E-05	1.9E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	1.6E-04	4.2E-05	2.0E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	4.4E-03	1.2E-03	0.006
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	2.7E-05	7.2E-06	3.4E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	8.5E-03	2.3E-03	0.011
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	1.7E-03	4.4E-04	2.1E-03
Total volatile organic HAPs					1.50%	0.031	0.008	0.039

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 Summary
Material Storage Piles**

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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.

$$E_f = 1.7 \cdot (s/1.5)^3 \cdot (365-p) / 235 \cdot (f/15)$$

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	1.50	0.824	0.288
Limestone	1.6	1.85	1.50	0.507	0.177
RAP	0.5	0.58	1.50	0.158	0.055
Gravel	1.6	1.85	1.50	0.507	0.177
Shingles	0.5	0.58	1.50	0.158	0.055
Slag	3.8	4.40	1.50	1.204	0.421
Totals				3.36	1.18

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 Summary
Material Processing, Handling, Crushing, Screening, and Conveying

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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.

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

where: E_f = Emission factor (lb/ton)

k (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter <=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 = 1,000,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 950,000 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	1.08	0.51	0.08
Front-end loader dumping of materials into feeder bins	1.08	0.51	0.08
Conveyor dropping material into dryer/mixer or batch tower	1.08	0.51	0.08
Total (tons/yr)	3.23	1.53	0.23

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	2.57	1.14
Screening	0.025	0.0087	11.88	4.13
Conveying	0.003	0.0011	1.43	0.52
Limited Potential to Emit (tons/yr) =			15.87	5.80

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 Summary
Unpaved Roads**

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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	= 1,000,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	= 5.0%	
Maximum Material Handling Throughput	= 950,000	tons/yr
Maximum Asphalt Cement/Binder Throughput	= 50,000	tons/yr
No. 2 Fuel Oil Limitation	= 2,660,632	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	4.2E+04	1.7E+06	1056	0.200	8482.1
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.2E+05	1056	0.200	8482.1
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.4E+03	6.7E+04	1056	0.200	277.8
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.4E+03	1.7E+04	1056	0.200	277.8
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.8E+02	1.2E+04	1056	0.200	56.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.8E+02	3.4E+03	1056	0.200	56.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	2.3E+05	4.3E+06	1056	0.200	45238.1
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	2.3E+05	3.4E+06	1056	0.200	45238.1
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	4.2E+04	1.7E+06	1056	0.200	8333.3
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.1E+05	1056	0.200	8333.3
Total					6.2E+05	1.3E+07			1.2E+05

Average Vehicle Weight Per Trip = 20.3 tons/trip
 Average Miles Per Trip = 0.200 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 =	20.3	20.3	20.3	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	6.10	1.55	0.16	lb/mile
Mitigated Emission Factor, E_{ext}	4.01	1.02	0.10	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)	25.85	6.59	0.66	17.00	4.33	0.43	8.50	2.17	0.22
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	25.85	6.59	0.66	17.00	4.33	0.43	8.50	2.17	0.22
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.847	0.216	0.02	0.557	0.142	1.4E-02	0.278	0.071	7.1E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.847	0.216	0.02	0.557	0.142	1.4E-02	0.278	0.071	7.1E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.171	0.044	4.4E-03	0.113	0.029	2.9E-03	0.056	0.014	1.4E-03
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.171	0.044	4.4E-03	0.113	0.029	2.9E-03	0.056	0.014	1.4E-03
Aggregate/RAP Loader Full	Front-end loader (3 CY)	137.86	35.14	3.51	90.65	23.10	2.31	45.33	11.55	1.16
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	137.86	35.14	3.51	90.65	23.10	2.31	45.33	11.55	1.16
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	25.40	6.47	0.65	16.70	4.26	0.43	8.35	2.13	0.21
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	25.40	6.47	0.65	16.70	4.26	0.43	8.35	2.13	0.21
Totals		380.26	96.91	9.69	250.03	63.72	6.37	125.02	31.86	3.19

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 Summary
Paved Roads**

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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	1,000,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	950,000	tons/yr
Maximum Asphalt Cement/Binder Throughput	50,000	tons/yr
No. 2 Fuel Oil Limitation	2,660,632	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	4.2E+04	1.7E+06	1056	0.200	8482.1
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.2E+05	1056	0.200	8482.1
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.4E+03	6.7E+04	1056	0.200	277.8
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.4E+03	1.7E+04	1056	0.200	277.8
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.8E+02	1.2E+04	1056	0.200	56.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.8E+02	3.4E+03	1056	0.200	56.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	2.3E+05	4.3E+06	1056	0.200	45238.1
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	2.3E+05	3.4E+06	1056	0.200	45238.1
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	4.2E+04	1.7E+06	1056	0.200	8333.3
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.1E+05	1056	0.200	8333.3
Total					6.2E+05	1.3E+07			1.2E+05

Average Vehicle Weight Per Trip = 20.3 tons/trip
 Average Miles Per Trip = 0.200 miles/trip

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

	PM	PM10	PM2.5
where k =	0.082	0.016	0.0024
W =	20.3	20.3	20.3
C =	0.00047	0.00047	0.00036
sL =	0.6	0.6	0.6

lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
 tons = average vehicle weight (provided by source)
 lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
 g/m² = 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 =	0.66	0.13	0.02
Mitigated Emission Factor, Eext =	0.60	0.12	0.02
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)	2.79	0.54	0.08	2.55	0.50	0.07	1.28	0.25	0.04
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	2.79	0.54	0.08	2.55	0.50	0.07	1.28	0.25	0.04
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.091	0.018	2.6E-03	0.084	0.016	2.4E-03	0.042	8.1E-03	1.2E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.091	0.018	2.6E-03	0.084	0.016	2.4E-03	0.042	8.1E-03	1.2E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.8E-02	3.6E-03	5.3E-04	1.7E-02	3.3E-03	4.9E-04	8.5E-03	1.6E-03	2.4E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.8E-02	3.6E-03	5.3E-04	1.7E-02	3.3E-03	4.9E-04	8.5E-03	1.6E-03	2.4E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	14.88	2.89	0.43	13.61	2.65	0.39	6.80	1.32	0.20
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	14.88	2.89	0.43	13.61	2.65	0.39	6.80	1.32	0.20
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	2.74	0.53	0.08	2.51	0.49	0.07	1.25	0.24	0.04
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	2.74	0.53	0.08	2.51	0.49	0.07	1.25	0.24	0.04
Totals		41.04	7.98	1.18	37.53	7.30	1.08	18.76	3.65	0.54

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 Summary
Cold Mix Asphalt Production and Stockpiles**

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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 = **58.89** 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%	62.0	58.89	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	84.1	58.89	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	235.5	58.89	4.000
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	126.9	58.89	2.155
Other asphalt with solvent binder	25.9%	2.5%	2355.5	58.89	40.0
Worst Case Limited PTE of VOC =				58.89	

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) =	15.36
Limited PTE of Single HAP (tons/yr) =	5.30 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 Summary
Gasoline Fuel Transfer and Dispensing Operation**

Company Name: Dave O'Mara Contractor Plant 0233
Current Source Address: 110 North Oard Road, Bloomington, Indiana 47404
Permit Number: F105-29731-05234
Revision No.: F105-30998-05234
Reviewer: Hannah L. Desrosiers
Date Submitted: 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

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Federally Enforceable State Operating Permit (FESOP) Renewal OFFICE OF AIR QUALITY

Dave O'Mara Contractor Plant 0233 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.: F119-21451-05234	
Original signed by: Paul Dubenetzky, Assistant Commissioner Office of Air Quality	Issuance Date: March 3, 2006 Expiration Date: March 3, 2016
First Relocation No.: 109-24419-05234 First Administrative Amendment No.: 109-25676-05234 Second Relocation No.: 083-26117-05234 Second Administrative Amendment No.: 083-27602-05234 Third Relocation No.: 105-27747-05234 Third Relocation Revocation No.: 105-28201-05234 Fourth Relocation No.: 105-28348-05234 Fifth Relocation No.: 105-28882-05234 Significant Permit Revision No.: 105-29731-05234	Issued: March 27, 2007 Issued: January 22, 2008 Issued: March 6, 2008 Issued: March 18, 2009 Issued: April 17, 2009 Issued: July 14, 2009 Issued: September 3, 2009 Issued: February 15, 2010 Issued: January 13, 2011
Third Administrative Amendment No.: 105-30998-05234	Affected Pages: 5, 6, 25-32, 37, 40, & 46-48.
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: November 14, 2011 Expiration Date: March 3, 2016

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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 plant.

Source Address:	Portable
General Source Phone Number:	(812) 346-4135
SIC Code:	2951
County Location:	Portable (initially Owen)
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

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

- (a) One (1) portable asphalt drum-mix plant, constructed in 1998, with a nominal capacity of 400 tons per hour, equipped with one (1) aggregate dryer burner with a maximum rated capacity of 120 million British thermal units (MMBtu) per hour, using natural gas, No. 2 fuel oil, or residual No. 4 fuel oil, processing steel slag and certified asbestos-free factory second shingles in the aggregate mix, using one (1) baghouse for particulate control, and exhausting to stack SV1. No grinding of shingles occurs at this source.
- (b) Material handling and conveying operations, consisting of the following:
 - (1) Aggregate storage piles consisting of sand, limestone, recycled asphalt pavement (RAP), gravel, steel slag, and certified asbestos-free factory second shingles.
 - (2) Three (3) hot mix asphalt storage silos, with a maximum capacity of 300 tons, each.
 - (3) Nine (9) cold feed bins, with a maximum capacity of 30 tons, each.
 - (4) Two (2) recycled asphalt pavement (RAP) feed bins, with a maximum capacity of 20 tons, each.
 - (5) Two (2) recycle transfer conveyors.
 - (6) Two (2) collecting conveyors.
 - (7) Three (3) transfer conveyors.

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

- (c) Cold-mix cutback asphalt production and storage piles, approved for construction in 2010.

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) Two (2) hot oil heaters, approved for construction in 2010, with a maximum heat input capacity of 1.0 MMBtu per hour, each, firing natural gas or No. 2 fuel oil.

Under NESHAP Subpart JJJJJJ, the hot oil heaters are considered affected facilities.
- (b) Two (2) liquid asphalt storage tanks, identified as G-0233 and A-02333, constructed in 2010, with a maximum capacity of 30,000 gallons, each.
- (c) One (1) liquid asphalt storage tank, identified as E-0233, approved for construction in 2011, with a maximum capacity of 12,000 gallons.
- (d) One (1) No. 4 fuel oil storage tank, identified as U-0233, constructed in 2010, with a maximum capacity of 27,000 gallons.
- (e) One (1) No. 2 fuel oil storage tank, identified as F-0233, constructed in 2010, with a maximum capacity of 10,000 gallons.
- (f) Paved and unpaved roads and parking lots with public access.

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, F119-21451-05234, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

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

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

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

B.4 Enforceability [326 IAC 2-8-6] [IC 13-17-12]

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

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

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

B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

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

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

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

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

- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:
- (1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
 - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

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

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

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

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

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

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

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

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

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

The Permittee shall implement the PMPs.

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

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

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

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

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

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The

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

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

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

- (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, or Southeast Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Southeast Regional Office phone: (812) 358-2027; fax: (812) 358-2058.

- (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 F119-21451-05234 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 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.16 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.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:
- Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:
- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
 - (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).

- (b) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.19 Source Modification Requirement [326 IAC 2-8-11.1]

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

B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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

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

B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

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

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

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

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

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 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) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

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

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

C.3 Opacity [326 IAC 5-1]

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

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

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

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

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

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

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

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

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

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

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

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

C.9 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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

- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require

a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

Compliance Requirements [326 IAC 2-1.1-11]

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

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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

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

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

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

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

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

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

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

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

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

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the

Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.
- (b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or

certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Portable Source Requirement

C.20 Relocation of Portable Sources [326 IAC 2-14-4]

- (a) This permit is approved for operation in all areas of Indiana except in severe nonattainment areas for ozone and in 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.
- (b) 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 326 IAC 2-1.1-1(1).

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

Stratospheric Ozone Protection

C.21 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 applicable standards for recycling and emissions reduction.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

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

- (a) One (1) portable asphalt drum-mix plant, constructed in 1998, with a nominal capacity of 400 tons per hour, equipped with one (1) aggregate dryer burner with a maximum rated capacity of 120 million British thermal units (MMBtu) per hour, using natural gas, No. 2 fuel oil, or residual No. 4 fuel oil, processing steel slag and certified asbestos-free factory second shingles in the aggregate mix, using one (1) baghouse for particulate control, and exhausting to stack SV1. No grinding of shingles occurs at this source.
- (b) Material handling and conveying operations, consisting of the following:
 - (1) Aggregate storage piles consisting of sand, limestone, recycled asphalt pavement (RAP), gravel, steel slag, and certified asbestos-free factory second shingles.
 - (2) Three (3) hot mix asphalt storage silos, with a maximum capacity of 300 tons, each.
 - (3) Nine (9) cold feed bins, with a maximum capacity of 30 tons, each.
 - (4) Two (2) recycled asphalt pavement (RAP) feed bins, with a maximum capacity of 20 tons, each.
 - (5) Two (2) recycle transfer conveyors.
 - (6) Two (2) collecting conveyors.
 - (7) Three (3) transfer conveyors.

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

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

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

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

- (a) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) PM emissions from the dryer/mixer shall not exceed 0.202 pounds per ton of asphalt produced.

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

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

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

- (a) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) PM10 emissions from the dryer/mixer shall not exceed 0.116 pounds per ton of asphalt produced.

- (c) PM2.5 emissions from the dryer/mixer shall not exceed 0.176 pounds per ton of asphalt produced.
- (d) CO emissions from the dryer/mixer shall not exceed 0.13 pounds per ton of asphalt produced.
- (e) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt produced.

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

In addition, compliance with these limits 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.1.3 Particulate Matter (PM) [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the dryer/mixer shall not exceed 0.03 grain per dry standard cubic foot of exhaust air when the source is located in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties.

D.1.4 Fuel and Slag Limits [326 IAC 2-8-4][326 IAC 2-2]

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

- (a) Steel slag usage shall not exceed 150,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) Slag and Fuel Specifications
 - (1) SO2 emissions from the usage of steel slag in the dryer/mixer shall not exceed 0.0014 pounds of SO2 per ton of steel slag processed.
 - (2) The thirty (30) day calendar month average sulfur content of the steel slag shall not exceed 0.66 percent by weight, with compliance determined at the end of each month.
 - (3) When combusting No. 2 fuel oil in the dryer/mixer burner the calendar month average sulfur content of the No. 2 fuel oil shall not exceed 0.5 percent by weight, with compliance determined at the end of each month.
 - (4) When combusting No. 4 fuel oil in the dryer/mixer burner the calendar month average sulfur content of the No. 4 fuel oil shall not exceed 1.60 percent by weight, with compliance determined at the end of each month.
- (c) Single Fuel Usage Limitations

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

- (1) Natural gas usage shall not exceed 1,028.93 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (2) No. 2 fuel oil usage shall not exceed 2,660,632 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (3) No. 4 fuel oil usage shall not exceed 787,104 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) Multiple Fuel Usage Limitations

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

- (1) SO₂ emissions from the dryer/mixer shall not exceed 94.56 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) NO_x emissions from the dryer/mixer shall not exceed 97.75 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

When combined with the limited potential to emit SO₂ and NO_x from all other emission units at this source, compliance with these limits shall limit the source-wide total potential to emit of SO₂ and NO_x to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-2 (PSD) not applicable.

D.1.5 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

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

- (a) The SO₂ emissions from the dryer/mixer burner shall not exceed five tenths (0.5) pounds per million British thermal unit heat input when operating on distillate oil.
- (b) The SO₂ emissions from the dryer/mixer burner shall not exceed one and six-tenths (1.6) pounds per million British thermal unit heat input when operating on residual oil.
- (c) Pursuant to 326 IAC 7-2-1, compliance shall be determined on a calendar month average.

D.1.6 Hazardous Air Pollutants (HAPs) [326 IAC 2-8-4][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to limit HAP emissions from the dryer/mixer, the Permittee shall use only certified asbestos-free factory second shingles as an additive in its aggregate mix.

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

D.1.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for aggregate dryer and drum mixer and their 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 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

- (a) In order to demonstrate compliance with Condition D.1.1(b) - Particulate Matter (PM), the Permittee shall perform PM testing of the dryer/mixer at least once every five (5) years from the date of the most recent valid compliance demonstration, utilizing methods approved by the Commissioner. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

- (b) In order to demonstrate compliance with Conditions D.1.2(b) and D.1.2(c) - FESOP Limits, the Permittee shall perform PM₁₀ and PM_{2.5} testing on the dryer/mixer not later than 180 days after final promulgation of the new or revised condensable PM test method(s) referenced in the U.S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM_{2.5}), signed on May 8th, 2008 or no later than five (5) years after the date of the most recent valid compliance demonstration, whichever is later. These tests shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. This testing shall be conducted utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM₁₀ and PM_{2.5} includes filterable and condensable PM.

D.1.9 Sulfur Dioxide Emissions and Sulfur Content

- (a) Compliance with the steel slag limitation established in Conditions D.1.4(b)(1) and D.1.4(b)(2) - Fuel and Slag Limits shall be determined utilizing one of the following options.
 - (1) Providing vendor analysis of the steel slag delivered, if accompanied by a vendor certification; or
 - (2) Analyzing a sample of the slag delivery to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 120 MMBtu per hour burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

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

- (b) Compliance with the fuel limitations established in Conditions D.1.4(b)(3), (4), and (5) - Fuel and Slag Limits and D.1.5(a) and (b) Sulfur Dioxide (SO₂) shall be determined utilizing one of the following options.
 - (1) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed 0.5 pounds per million British thermal units heat input when combusting No. 2 distillate fuel oil, or 1.6 pounds per million British thermal units heat input when combusting No. 4 residual fuel oil, by:

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

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

D.1.10 Particulate Matter (PM, PM10, and PM2.5) Control

- (a) In order to comply with Conditions D.1.1(b) - Particulate Matter (PM), D.1.2(b) and (c) - FESOP Limits, and D.1.3 - Particulate, the baghouse for the dryer/mixer shall be in operation and control emissions from the dryer/mixer at all times when the dryer/mixer is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.11 Multiple Fuel Usage / Sulfur Dioxide (SO₂) and Nitrogen Oxide (NO_x) Emissions

- (a) In order to determine compliance with Condition D.1.4(d)(1) - Fuel and Slag Limits, when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner and in conjunction with the use of steel slag in the aggregate mix, the Permittee shall use the following equation to determine the tons of SO₂ emitted per twelve (12) consecutive month period:

- (1) Sulfur Dioxide emission calculation

$$S = \frac{F(E_F) + R(E_R) + G(E_G) + L(E_L)}{2000 \text{ lbs/ton}}$$

Where:

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

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

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

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

L = tons of steel slag used in last twelve (12) months with less than or equal to sixty-six hundredths percent (0.66%) sulfur content

Emission Factors:

E_F = 0.071 pounds per gallon of No. 2 fuel oil

E_R = 0.24 pounds per gallon of No. 4 fuel oil

$E_G = 0.6$ pounds per million cubic feet of natural gas
 $E_L = 0.0014$ pounds per ton of steel slag processed

- (b) In order to determine compliance with Condition D.1.4(d)(2) - Fuel and Slag Limits, when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, the Permittee shall use the following equation to determine the tons of NOx emitted per twelve (12) consecutive month period:

- (1) Nitrogen Oxide emission calculation

$$N = \frac{F(E_F) + R(E_R) + G(E_G)}{2000 \text{ lbs/ton}}$$

Where:

N = tons of nitrogen oxide emissions for twelve (12) month consecutive period

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

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

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

Emission Factors:

$E_F = 0.024$ pounds per gallon of No. 2 fuel oil

$E_R = 0.047$ pounds per gallon of No. 4 fuel oil

$E_G = 190$ pounds per million cubic feet of natural gas

D.1.12 Asbestos Content

Compliance with Condition D.1.6(c) - Hazardous Air Pollutants (HAPs) shall be determined utilizing one of the following options:

- (a) Providing shingle supplier certification that the factory second shingles do not contain asbestos; or
- (b) Analyzing a sample of the factory second shingles delivery to determine the asbestos content of the factory second shingles, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified 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.1.13 Visible Emissions Notations

- (a) Visible emission notations of the conveyors, material transfer points and aggregate dryer/mixer stack (SV1) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.1.14 Baghouse Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the aggregate dryer and drum mixer at least once per day when the aggregate dryer and drum mixer are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 5.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.
- (b) The 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.1.15 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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

D.1.16 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.1.1(a) - Particulate Matter (PM) and D.1.2(a) - FESOP Limits, the Permittee shall maintain records of the amount of asphalt produced per month. Records necessary to demonstrate compliance shall be available no later than thirty (30) days after the end of each compliance period.
- (b) To document the compliance status with Conditions D.1.4(a), D.1.4(b), and D.1.4(d) - Fuel and Slag (SO₂) Limits, the Permittee shall maintain records in accordance with (1) through (4) below. Records necessary to demonstrate compliance shall be available no later than 30 days after the end of each compliance period.

- (1) Calendar dates covered in the compliance determination period;
 - (2) Actual steel slag usage and sulfur content for all steel slag used at the source since the last compliance determination period;
 - (3) A certification, signed by the owner or operator, that the records of the steel slag supplier certifications represent all of the steel slag used during the period; and
 - (4) If the steel slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Steel slag supplier certifications;
 - (ii) The name of the steel slag supplier; and
 - (iii) A statement from the steel slag supplier that certifies the sulfur content of the steel slag.
- (c) To document the compliance status with Conditions D.1.4 - Fuel and Slag Limits and D.1.5 - Sulfur Dioxide (SO₂), the Permittee shall maintain records in accordance with (1) through (4) below. Records necessary to determine compliance shall be available no later than 30 days after the end of each compliance period.
- (1) Calendar dates covered in the compliance determination period;
 - (2) Calendar month average sulfur content, heat content, fuel usage, and equivalent sulfur dioxide and nitrogen oxide emission rates for each fuel used at the source since the last compliance determination period;
 - (3) A certification, signed by the owner or operator, that the records of the fuel oil supplier certifications represent all of the fuel combusted during the period; and
 - (4) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) The name of the fuel supplier; and
 - (ii) A statement from the fuel supplier that certifies the sulfur content of the No. 2 fuel oil, and No. 4 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.
- (d) To document the compliance status with Condition D.1.6 - Hazardous Air Pollutants (HAPs), the Permittee shall maintain records in accordance with (1) and (2) below. Records necessary to determine compliance shall be available no later than 30 days after the end of each compliance period.
- (1) A certification, signed by the owner or operator, that the records of the shingle supplier certifications represent all of the shingles used during the period; and
 - (2) If the shingle supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

- (i) Shingle supplier certifications;
 - (ii) The name of the shingle supplier(s); and
 - (iii) A statement from the shingle supplier(s) that certifies the asbestos content of the shingles from their company.
- (e) To document the compliance status with Condition D.1.13 - Visible Emission Notations, the Permittee shall maintain records of the daily visible emission notations of the conveyors, material transfer points, and, the dryer/burner stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (i.e., the process did not operate that day).
- (f) To document the compliance status with Condition D.1.14 - Parametric Monitoring, the Permittee shall maintain records of the once per day pressure drop and the inlet baghouse temperature readings during normal operation. The Permittee shall include in its daily record when the pressure drop and inlet baghouse temperature readings are not taken and the reason for the lack of a pressure drop and inlet baghouse temperature reading (e.g. the process did not operate that day).
- (g) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

D.1.17 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.1(a) - Particulate Matter (PM), D.1.2(a) - FESOP Limits, and D.1.4 - Fuel and Slag Limits shall be submitted no later than 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 D.2

FACILITY OPERATION CONDITIONS

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

(c) Cold-mix cutback asphalt production and storage piles, approved for construction in 2010.

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

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

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

- (a) Pursuant to 326 IAC 2-8-4, the VOC emissions from the sum of the binders shall not exceed 58.89 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) 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
- (c) 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 not exceed 62.0 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 not exceed 84.1 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 not exceed 235.5 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 not exceed 126.9 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 not exceed 2355.5 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (6) The VOC solvent allotments in (1) through (5) above shall be adjusted when more than one type of binder is used per twelve (12) consecutive month period with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment factor listed in the table that follows.

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

Type of binder	adjustment factor
cutback asphalt rapid cure	1.053
cutback asphalt medium cure	1.429
cutback asphalt slow cure	4.0
emulsified asphalt	2.155
other asphalt	40

When combined with the limited potential to emit VOC from all other emission units at this source, compliance with these limits shall limit the source-wide total potential to emit of VOC 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 (PSD) not applicable.

D.2.2 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.2.3 Record Keeping Requirements

- (a) To document the compliance status with Condition D.2.1 - Volatile Organic Compounds (VOC) the Permittee shall record and maintain complete monthly records of the information listed in items (1) through (4) below:
 - (1) Calendar dates covered in the compliance determination period;

- (2) Liquid asphalt binder usage in the production of cold mix asphalt since the last compliance determination period.
- (3) VOC solvent content by weight of the liquid binder used in the production of cold mix asphalt since the last compliance determination period.
- (4) Amount of VOC solvent used in the production of cold mix asphalt and the amount of VOC emitted since the last compliance determination period.

Records that may be used to document the information included in (1) through (4) may include: delivery tickets, manufacturer's data, material safety data sheets (MSDS), and other documents necessary to verify the type and amount used. Test results of ASTM tests for asphalt cutback and asphalt emulsion may be used to document volatilization.

- (b) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

D.2.4 Reporting Requirements

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

SECTION D.3

FACILITY OPERATION CONDITIONS

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

Insignificant Activities

- (a) Two (2) hot oil heaters, approved for construction in 2010, with a maximum heat input capacity of 1.0 MMBtu per hour, each, firing natural gas or No. 2 fuel oil.

Under NESHAP Subpart JJJJJJ, the hot oil heaters are considered affected facilities.
- (b) Two (2) liquid asphalt storage tanks, identified as G-0233 and A-02333, constructed in 2010, with a maximum capacity of 30,000 gallons, each.
- (c) One (1) liquid asphalt storage tank, identified as E-0233, approved for construction in 2011, with a maximum capacity of 12,000 gallons.
- (d) One (1) No. 4 fuel oil storage tank, identified as U-0233, constructed in 2010, with a maximum capacity of 27,000 gallons.
- (e) One (1) No. 2 fuel oil storage tank, identified as F-0233, constructed in 2010, with a maximum capacity of 10,000 gallons.
- (f) Paved and unpaved roads and parking lots with public access.

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

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

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

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

D.3.2 Particulate Matter (PM) [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from each hot oil heater shall not exceed 0.03 grain per dry standard cubic foot of exhaust air when the source is located in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties.

D.3.3 Volatile Organic Liquid Storage Vessels [326 IAC 8-9]

Pursuant to 326 IAC 8-9-6 (Volatile Organic Liquid Storage Vessels), the Permittee shall record and submit to IDEM, OAQ a report containing the following information for the storage tanks (G-0233, A-0233, F-0233, and U-0233) when the source is located in Clark or Floyd Counties:

- (a) The vessel identification number.
- (b) The vessel dimensions.
- (c) The vessel capacity.

The Permittee shall keep all records as described in (a) through (c) for the life of the vessel.

SECTION E.1

FACILITY OPERATION CONDITIONS

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

- (a) One (1) portable asphalt drum-mix plant, constructed in 1998, with a nominal capacity of 400 tons per hour, equipped with one (1) aggregate dryer burner with a maximum rated capacity of 120 million British thermal units (MMBtu) per hour, using natural gas, No. 2 fuel oil, residual No. 4 fuel oil, or re-refined waste oil, processing steel slag and certified asbestos-free factory second shingles in the aggregate mix, using one (1) baghouse for particulate control, and exhausting to stack SV1. No grinding of shingles occurs at this source.
- (b) Material handling and conveying operations, consisting of the following:
 - (1) Aggregate storage piles consisting of sand, limestone, recycled asphalt pavement (RAP), gravel, steel slag, and certified asbestos-free factory second shingles.
 - (2) Three (3) hot mix asphalt storage silos, with a maximum capacity of 300 tons, each.
 - (3) Nine (9) cold feed bins, with a maximum capacity of 30 tons, each.
 - (4) Two (2) recycled asphalt pavement (RAP) feed bins, with a maximum capacity of 20 tons, each.
 - (5) Two (2) recycle transfer conveyors.
 - (6) Two (2) collecting conveyors.
 - (7) Three (3) transfer conveyors.

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

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

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

E.1.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart I.
- (b) Pursuant to 40 CFR 60.10, 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 New Source Performance Standards (NSPS) for Hot Mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart I (included as Attachment B of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart I:

- (a) 40 CFR 60.90
- (b) 40 CFR 60.91
- (c) 40 CFR 60.92
- (d) 40 CFR 60.93

SECTION E.2

FACILITY OPERATION CONDITIONS

Emissions Unit Description: Boilers (Hot Oil Heaters)

- (a) Two (2) hot oil heaters, approved for construction in 2010, with a maximum heat input capacity of 1.0 MMBtu per hour, each, firing natural gas or No. 2 fuel oil.

Under NESHAP Subpart JJJJJJ, the hot oil heaters are considered affected facilities.

(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.2.1 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.2.2 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 two (2) hot oil heaters are therefore subject to the following portions of Subpart JJJJJJ (6J) (included as Attachment C 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); | | |

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

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

Source Name: Dave O'Mara Contractor Plant 0233
Source Address: Portable
FESOP Permit No.: F119-21451-05234

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 Plant 0233
Source Address: Portable
FESOP Permit No.: F119-21451-05234

This form consists of 2 pages

Page 1 of 2

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

Source Name: Dave O'Mara Contractor Plant 0233
Source Address: Portable
FESOP Permit No.: F119-21451-05234
Facility: One (1) aggregate dryer/mixer
Parameter: Asphalt processed
Limit: One million (1,000,000) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Asphalt processed (tons)	Asphalt processed (tons)	Asphalt processed (tons)
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

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

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

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

FESOP Quarterly Report

Source Name: Dave O'Mara Contractor Plant 0233
Source Address: Portable
FESOP Permit No.: F119-21451-05234
Facility: Dryer/Mixer
Parameter: Steel Slag Usage
Limit: Steel slag usage shall not exceed 150,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

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

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

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

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

FESOP Quarterly Report

Source Name: Dave O'Mara Contractor Plant 0233
 Source Address: Portable
 FESOP Permit No.: F119-21451-05234
 Facility: Dryer/mixer burner
 Parameter: Single fuel usage
 Limit: When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner the usage of fuel shall be limited as follows:

Fuel Type (units)	Fuel Usage Limit (per 12 consecutive month period)
Natural Gas (million cubic feet)	1,028.93
No. 2 fuel oil (gallons)	2,660,632
No. 4 fuel oil (gallons)	787,104

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
Page 1 of 2

Source Name: Dave O'Mara Contractor Plant 0233
Source Address: Portable
FESOP Permit No.: F119-21451-05234
Facility: Dryer/mixer burner and steel slag processing
Parameter: SO2 and NOx emissions
Limit: SO2 emissions from the dryer/mixer shall not exceed 94.56 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
NOx emissions from the dryer/mixer shall not exceed 97.75 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Sulfur dioxide (SO2) emissions shall be determined using the following equation:

$$S = \frac{F(E_F) + R(E_R) + G(E_G) + L(E_L)}{2000 \text{ lbs/ton}}$$

<u>Where:</u> S = tons of sulfur dioxide emissions for twelve (12) month consecutive period F = gallons of No. 2 fuel oil used in last twelve (12) months R = gallons of No. 4 fuel oil used in last twelve (12) months G = million cubic feet of natural gas used in last twelve (12) months L = tons of steel slag used in last twelve (12) months with less than or equal to sixty-six hundredths percent (0.66%) sulfur content	<u>Emission Factors:</u> E _F = 0.071 pounds per gallon of No. 2 fuel oil E _R = 0.24 pounds per gallon of No. 4 fuel oil E _G = 0.6 pounds per million cubic feet of natural gas E _L = 0.0014 pounds per ton of steel slag processed
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Nitrogen Oxide (NOx) emissions shall be determined using the following equation:

$$N = \frac{F(E_F) + R(E_R) + G(E_G)}{2000 \text{ lbs/ton}}$$

<u>Where:</u> N = tons of nitrogen oxide emissions for twelve (12) month consecutive period F = gallons of No. 2 fuel oil used in last twelve (12) months R = gallons of No. 4 fuel oil used in last twelve (12) months G = million cubic feet of natural gas used in last twelve (12) months	<u>Emission Factors:</u> E _F = 0.024 pounds per gallon of No. 2 fuel oil E _R = 0.047 pounds per gallon of No. 4 fuel oil E _G = 190 pounds per million cubic feet of natural gas
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FESOP Fuel Usage and SO2/NOx Emissions Quarterly Reporting Form

YEAR: _____

Month	Fuel Types/Slag (units)	Column 1	Column 2	Column 1 + Column 2	Total SO2 Emissions From All Fuels Used and Slag (tons per 12 month consecutive period)	Total NOx Emissions From All Fuels Used (tons per 12 month consecutive period)
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total		
Month 1	Natural gas (mmcf)					
	No. 2 fuel oil (gallons)					
	No. 4 fuel oil (gallons)					
	Steel Slag (tons)					
Month 2	Natural gas (mmcf)					
	No. 2 fuel oil (gallons)					
	No. 4 fuel oil (gallons)					
	Steel Slag (tons)					
Month 3	Natural gas (mmcf)					
	No. 2 fuel oil (gallons)					
	No. 4 fuel oil (gallons)					
	Steel Slag (tons)					

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 - Single Liquid Binder VOC Solvent

Source Name: Dave O'Mara Contractor Plant 0233
 Initial Source Address: Portable, Indiana
 FESOP Permit No.: F119-21451-05234
 Facility: Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles
 Parameter: Cutback or emulsified asphalt VOC solvent usage
 Limit: Cutback asphalt rapid cure liquid binder usage shall not exceed 62.0 tons of VOC solvent per twelve (12) consecutive month period. Cutback asphalt medium cure liquid binder usage shall not exceed 84.1 tons of VOC solvent per twelve (12) consecutive month period. Cutback asphalt slow cure liquid binder usage shall not exceed 235.5 tons of VOC solvent per twelve (12) consecutive month period. Emulsified asphalt with solvent liquid binder usage shall not exceed 126.9 tons of VOC solvent per twelve (12) consecutive month period. Other asphalt with solvent liquid binder shall not exceed 2355.5 tons of 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 Plant 0233
 Source Address: Portable
 FESOP Permit No.: F119-21451-05234
 Facility: Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles
 Parameter: VOC emissions
 Limit: VOC emissions from the sum of the binders shall not exceed 58.89 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Year: _____

Month	Type of Liquid binder	Solvent Usage This Month (tons)	Divisor	VOC emissions This Month (tons) for each solvent	VOC emissions This Month (tons)	VOC emissions Previous 11 Months (tons)	This month + Previous 11months =VOC emissions 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 Plant 0233
Source Address: Portable
FESOP Permit No.: F119-21451-05234

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: _____

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

**Dave O'Mara Contractor Plant 0233
Portable**

Attachment A

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

F119-21451-05234

HOT-MIX ASPHALT PLANT SITE FUGITIVE DUST CONTROL PLAN

- (a) Fugitive particulate matter emissions from paved roads and parking lots shall be controlled by one or more of the following methods:
 - (1) cleaning by vacuum sweeping on an as needed basis (monthly at a minimum)
 - (2) power brooming while wet either from rain or application of water.

- (b) Fugitive particulate matter emissions from unpaved roads and parking lots shall be controlled by one or more of the following methods:
 - (1) paving with asphalt;
 - (2) treating with emulsified asphalt;
 - (3) watering;
 - (4) double chip and seal the road surface.

- (c) Fugitive particulate matter emissions from aggregate stockpiles shall be controlled by one or more of the following methods on an as needed basis:
 - (1) maintaining minimum size and number of stock piles of aggregate;
 - (2) treating around the stockpile area with emulsified asphalt;
 - (3) treating around the stockpile area with water;
 - (4) treating the stockpiles with water.

- (d) Fugitive particulate matter emissions from outdoor conveying of aggregates shall be controlled by the following method on an as needed basis:
 - (1) applying water at the feed and the intermediate points.

- (e) Fugitive particulate matter emissions from the transfer of aggregates shall be controlled by one of the following methods:
 - (1) minimize the vehicular distance between transfer points;
 - (2) enclose the transfer points;
 - (3) apply water on transfer points on an as needed basis.

- (f) Fugitive particulate matter emissions from transportation of aggregate by truck, front end loader, etc. shall be controlled by one of the following methods:
 - (1) tarping the aggregate hauling vehicles;
 - (2) maintain vehicle bodies in a condition to prevent leakage;
 - (3) spray the aggregates with water;
 - (4) maintain a 10 MPH speed limit in the yard.

- (g) Fugitive particulate matter emissions from the loading and unloading of aggregate shall be controlled by one of the following methods:
 - (1) reduce free fall distance to a minimum;
 - (2) reduce the rate of discharge of the aggregate;
 - (3) spray the aggregate with water on an as needed basis.

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

Attachment B

Title 40: Protection of Environment

Subpart I—Standards of Performance for Hot Mix Asphalt Facilities

§ 60.90 Applicability and designation of affected facility.

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

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

§ 60.91 Definitions.

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

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

[51 FR 12325, Apr. 10, 1986]

§ 60.92 Standard for particulate matter.

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

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

§ 60.93 Test methods and procedures.

- (a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).
- (b) The owner or operator shall determine compliance with the particulate matter standards in §60.92 as follows:

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

[54 FR 6667, Feb. 14, 1989]

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

**Dave O'Mara Contractor Plant 0233
Portable**

Attachment C

Title 40: Protection of Environment

**[PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR
POLLUTANTS FOR SOURCE CATEGORIES](#)**

**Subpart JJJJJJ - Industrial, Commercial, and
Institutional Boilers Area Sources**

F119-30998-05234

40 CFR 63, Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

Source: 76 FR 15591, March 21, 2011, unless otherwise noted.

What This Subpart Covers

§ 63.11193 Am I subject to this subpart?

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in §63.11237 that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in §63.2, except as specified in §63.11195.

§ 63.11194 What is the affected source of this subpart?

- (a) This subpart applies to each new, reconstructed, or existing affected source as defined in paragraphs (a)(1) and (2) of this section.
 - (1) The affected source is the collection of all existing industrial, commercial, and institutional boilers within a subcategory (coal, biomass, oil), as listed in §63.11200 and defined in §63.11237, located at an area source.
 - (2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler within a subcategory, as listed in §63.11200 and as defined in §63.11237, located at an area source.
- (b) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before June 4, 2010.
- (c) An affected source is a new source if you commenced construction or reconstruction of the affected source after June 4, 2010 and you meet the applicability criteria at the time you commence construction.
- (d) A boiler is a new affected source if you commenced fuel switching from natural gas to solid fossil fuel, biomass, or liquid fuel after June 4, 2010.
- (e) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or part 71 as a result of this subpart. You may, however, be required to obtain a title V permit due to another reason or reasons. See 40 CFR 70.3(a) and (b) or 71.3(a) and (b). Notwithstanding the exemption from title V permitting for area sources under this subpart, you must continue to comply with the provisions of this subpart.

§ 63.11195 Are any boilers not subject to this subpart?

The types of boilers listed in paragraphs (a) through (g) of this section are not subject to this subpart and to any requirements in this subpart.

- (a) Any boiler specifically listed as, or included in the definition of, an affected source in another standard(s) under this part.
- (b) Any boiler specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act.
- (c) A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by subpart EEE of this part (e.g., hazardous waste boilers).
- (d) A boiler that is used specifically for research and development. This exemption does not include boilers that solely or primarily provide steam (or heat) to a process or for heating at a research and development facility. This exemption does not prohibit the use of the steam (or heat) generated from the boiler during research and development, however, the boiler must be concurrently and primarily engaged in research and development for the exemption to apply.

- (e) A gas-fired boiler as defined in this subpart.
- (f) A hot water heater as defined in this subpart.
- (g) Any boiler that is used as a control device to comply with another subpart of this part, provided that at least 50 percent of the heat input to the boiler is provided by the gas stream that is regulated under another subpart.

§ 63.11196 *What are my compliance dates?*

- (a) If you own or operate an existing affected boiler, you must achieve compliance with the applicable provisions in this subpart as specified in paragraphs (a)(1) through (3) of this section.
 - (1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management standard no later than March 21, 2012.
 - (2) If the existing affected boiler is subject to emission limits, you must achieve compliance with the emission limits no later than March 21, 2014.
 - (3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than March 21, 2014.
- (b) If you start up a new affected source on or before May 20, 2011, you must achieve compliance with the provisions of this subpart no later than May 20, 2011.
- (c) If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source.
- (d) If you own or operate an industrial, commercial, or institutional boiler and would be subject to this subpart except for the exemption in §63.11195(b) for commercial and industrial solid waste incineration units covered by 40 CFR part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart on the effective date of the waste to fuel switch.

Emission Limits, Work Practice Standards, Emission Reduction Measures, and Management Practices

§ 63.11200 *What are the subcategories of boilers?*

The subcategories of boilers are coal, biomass, and oil. Each subcategory is defined in §63.11237.

§ 63.11201 *What standards must I meet?*

- (a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler.
- (b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets the requirements in Table 2 to this subpart satisfies the energy assessment portion of this requirement.
- (c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler.
- (d) These standards apply at all times.

General Compliance Requirements

§ 63.11205 *What are my general requirements for complying with this subpart?*

- (a) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
- (b) You can demonstrate compliance with any applicable mercury emission limit using fuel analysis if the emission rate calculated according to §63.11211(c) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using stack testing.
- (c) If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of continuous parameter monitoring system), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (3) of this section for the use of any CEMS, COMS, or continuous parameter monitoring system. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).
 - (1) For each continuous monitoring system required in this section (including CEMS, COMS, or continuous parameter monitoring system), you must develop, and submit to the delegated authority for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (vi) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site specific monitoring plan does not apply to affected sources with existing monitoring plans that apply to CEMS and COMS prepared under Appendix B to part 60 of this chapter and which meet the requirements of §63.11224.
 - (i) Installation of the continuous monitoring system sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);
 - (ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and
 - (iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).
 - (iv) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);
 - (v) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and
 - (vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c) (as applicable in Table 8 to this subpart), (e)(1), and (e)(2)(i).
 - (2) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.
 - (3) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

Initial Compliance Requirements

§ 63.11210 What are my initial compliance requirements and by what date must I conduct them?

- (a) You must demonstrate initial compliance with each emission limit specified in Table 1 to this subpart that applies to you by either conducting performance (stack) tests, as applicable, according to §63.11212 and Table 4 to this subpart or, for mercury, conducting fuel analyses, as applicable, according to §63.11213 and Table 5 to this subpart.
- (b) For existing affected boilers that have applicable emission limits, you must demonstrate initial compliance no later than 180 days after the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2).
- (c) For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, you must demonstrate initial compliance no later than the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2).
- (d) For new or reconstructed affected sources, you must demonstrate initial compliance no later than 180 calendar days after March 21, 2011 or within 180 calendar days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).
- (e) For affected boilers that ceased burning solid waste consistent with §63.11196(d), you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations before you commence or recommence combustion of solid waste.

§ 63.11211 How do I demonstrate initial compliance with the emission limits?

- (a) For affected boilers that demonstrate compliance with any of the emission limits of this subpart through performance (stack) testing, your initial compliance requirements include conducting performance tests according to §63.11212 and Table 4 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler according to §63.11213 and Table 5 to this subpart, establishing operating limits according to §63.11222, Table 6 to this subpart and paragraph (b) of this section, as applicable, and conducting continuous monitoring system (CMS) performance evaluations according to §63.11224. For affected boilers that burn a single type of fuel, you are exempted from the compliance requirements of conducting a fuel analysis for each type of fuel burned in your boiler. For purposes of this subpart, boilers that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as affected boilers that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under §63.11213 and Table 5 to this subpart.
- (b) You must establish parameter operating limits according to paragraphs (b)(1) through (4) of this section.
 - (1) For a wet scrubber, you must establish the minimum liquid flowrate and pressure drop as defined in §63.11237, as your operating limits during the three-run performance stack test. If you use a wet scrubber and you conduct separate performance stack tests for particulate matter and mercury emissions, you must establish one set of minimum scrubber liquid flowrate and pressure drop operating limits. If you conduct multiple performance stack tests, you must set the minimum liquid flowrate and pressure drop operating limits at the highest minimum values established during the performance stack tests.
 - (2) For an electrostatic precipitator operated with a wet scrubber, you must establish the minimum voltage and secondary amperage (or total electric power input), as defined in §63.11237, as your operating limits during the three-run performance stack test. (These operating limits do not apply to electrostatic precipitators that are operated as dry controls without a wet scrubber.)

- (3) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in §63.11237, as your operating limit during the three-run performance stack test.
 - (4) The operating limit for boilers with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in §63.11224, and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.
- (c) If you elect to demonstrate compliance with an applicable mercury emission limit through fuel analysis, you must conduct fuel analyses according to §63.11213 and Table 5 to this subpart and follow the procedures in paragraphs (c)(1) through (3) of this section.
- (1) If you burn more than one fuel type, you must determine the fuel type, or mixture, you could burn in your boiler that would result in the maximum emission rates of mercury.
 - (2) You must determine the 90th percentile confidence level fuel mercury concentration of the composite samples analyzed for each fuel type using Equation 1 of this section.

$$P_{90} = \text{mean} + (SD * t) \quad (\text{Eq. 1})$$

Where:

P90 = 90th percentile confidence level mercury concentration, in pounds per million Btu.
mean = Arithmetic average of the fuel mercury concentration in the fuel samples analyzed according to §63.11213, in units of pounds per million Btu.
SD = Standard deviation of the mercury concentration in the fuel samples analyzed according to §63.11213, in units of pounds per million Btu.
t = t distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.

- (3) To demonstrate compliance with the applicable mercury emission limit, the emission rate that you calculate for your boiler using Equation 1 of this section must be less than the applicable mercury emission limit.

§ 63.11212 What stack tests and procedures must I use for the performance tests?

- (a) You must conduct all performance tests according to §63.7(c), (d), (f), and (h). You must also develop a site-specific test plan according to the requirements in §63.7(c).
- (b) You must conduct each stack test according to the requirements in Table 4 to this subpart.
- (c) You must conduct performance stack tests at the representative operating load conditions while burning the type of fuel or mixture of fuels that have the highest emissions potential for each regulated pollutant, and you must demonstrate initial compliance and establish your operating limits based on these performance stack tests. For subcategories with more than one emission limit, these requirements could result in the need to conduct more than one performance stack test. Following each performance stack test and until the next performance stack test, you must comply with the operating limit for operating load conditions specified in Table 3 to this subpart.
- (d) You must conduct a minimum of three separate test runs for each performance stack test required in this section, as specified in §63.7(e)(3) and in accordance with the provisions in Table 4 to this subpart.
- (e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A-7 to part 60 of this chapter to convert the measured particulate matter concentrations and the measured mercury concentrations that result from the initial performance test to pounds per million Btu heat input emission rates.

§ 63.11213 What fuel analyses and procedures must I use for the performance tests?

- (a) You must conduct fuel analyses according to the procedures in paragraphs (b) and (c) of this section and Table 5 to this subpart, as applicable. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury in Table 1 of this subpart.
- (b) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in Table 5 to this subpart. Each composite sample must consist of a minimum of three samples collected at approximately equal intervals during a test run period.
- (c) Determine the concentration of mercury in the fuel in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 5 to this subpart.

§ 63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?

- (a) If you own or operate an existing or new coal-fired boiler with a heat input capacity of less than 10 million Btu per hour, you must conduct a performance tune-up according to §63.11223(b) and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler.
- (b) If you own or operate an existing or new biomass-fired boiler or an existing or new oil-fired boiler, you must conduct a performance tune-up according to §63.11223(b) and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler.
- (c) If you own or operate an existing affected boiler with a heat input capacity of 10 million Btu per hour or greater, you must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed and submit, upon request, the energy assessment report.
- (d) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

Continuous Compliance Requirements

§ 63.11220 When must I conduct subsequent performance tests?

- (a) If your boiler has a heat input capacity of 10 million Btu per hour or greater, you must conduct all applicable performance (stack) tests according to §63.11212 on an triennial basis, unless you follow the requirements listed in paragraphs (b) through (d) of this section. Triennial performance tests must be completed no more than 37 months after the previous performance test, unless you follow the requirements listed in paragraphs (b) through (d) of this section.
- (b) You can conduct performance stack tests less often for particulate matter or mercury if your performance stack tests for the pollutant for at least 3 consecutive years show that your emissions are at or below 75 percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions. In this case, you do not have to conduct a performance stack test for that pollutant for the next 2 years. You must conduct a performance stack test during the third year and no more than 37 months after the previous performance stack test.

- (c) If your boiler continues to meet the emission limit for particulate matter or mercury, you may choose to conduct performance stack tests for the pollutant every third year if your emissions are at or below 75 percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, but each such performance stack test must be conducted no more than 37 months after the previous performance test.
- (d) If you have an applicable CO emission limit, you must conduct triennial performance tests for CO according to §63.11212. Each triennial performance test must be conducted between no more than 37 months after the previous performance test.
- (e) If you demonstrate compliance with the mercury emission limit based on fuel analysis, you must conduct a fuel analysis according to §63.11213 for each type of fuel burned monthly. If you plan to burn a new type of fuel or fuel mixture, you must conduct a fuel analysis before burning the new type of fuel or mixture in your boiler. You must recalculate the mercury emission rate using Equation 1 of §63.11211. The recalculated mercury emission rate must be less than the applicable emission limit.

§ 63.11221 How do I monitor and collect data to demonstrate continuous compliance?

- (a) You must monitor and collect data according to this section.
- (b) You must operate the monitoring system and collect data at all required intervals at all times the affected source is operating except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods (see section 63.8(c)(7) of this part), and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to effect monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.
- (c) You may not use data recorded during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.
- (d) Except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments, failure to collect required data is a deviation of the monitoring requirements.

§ 63.11222 How do I demonstrate continuous compliance with the emission limits?

- (a) You must demonstrate continuous compliance with each emission limit and operating limit in Tables 1 and 3 to this subpart that applies to you according to the methods specified in Table 7 to this subpart and to paragraphs (a)(1) through (4) of this section.
 - (1) Following the date on which the initial compliance demonstration is completed or is required to be completed under §§63.7 and 63.11196, whichever date comes first, you must continuously monitor the operating parameters. Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits established under this subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish

- new operating limits. Operating limits are confirmed or reestablished during performance tests.
- (2) If you have an applicable mercury or PM emission limit, you must keep records of the type and amount of all fuels burned in each boiler during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in lower emissions of mercury than the applicable emission limit (if you demonstrate compliance through fuel analysis), or result in lower fuel input of mercury than the maximum values calculated during the last performance stack test (if you demonstrate compliance through performance stack testing).
 - (3) If you have an applicable mercury emission limit and you plan to burn a new type of fuel, you must determine the mercury concentration for any new fuel type in units of pounds per million Btu, using the procedures in Equation 1 of §63.11211 based on supplier data or your own fuel analysis, and meet the requirements in paragraphs (a)(3)(i) or (ii) of this section.
 - (i) The recalculated mercury emission rate must be less than the applicable emission limit.
 - (ii) If the mercury concentration is higher than mercury fuel input during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.11212 to demonstrate that the mercury emissions do not exceed the emission limit.
 - (4) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alarm and operate and maintain the fabric filter system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm is counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken to initiate corrective action.
- (b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 and 3 to this subpart that apply to you. These instances are deviations from the emission limits in this subpart. These deviations must be reported according to the requirements in §63.11225.

§ 63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?

- (a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a biennial performance tune-up according to paragraphs (b) of this section and keep records as required in §63.11225(c) to demonstrate continuous compliance. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up.
- (b) You must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section.
 - (1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 36 months).

- (2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
 - (3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly.
 - (4) Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available.
 - (5) Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made).
 - (6) Maintain onsite and submit, if requested by the Administrator, biennial report containing the information in paragraphs (b)(6)(i) through (iii) of this section.
 - (i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler.
 - (ii) A description of any corrective actions taken as a part of the tune-up of the boiler.
 - (iii) The type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler.
 - (7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup.
- (c) If you own or operate an existing or new coal-fired boiler with a heat input capacity of 10 million Btu per hour or greater, you must minimize the boiler's time spent during startup and shutdown following the manufacturer's recommended procedures and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures.

§ 63.11224 What are my monitoring, installation, operation, and maintenance requirements?

- (a) If your boiler is subject to a carbon monoxide emission limit in Table 1 to this subpart, you must install, operate, and maintain a continuous oxygen monitor according to the procedures in paragraphs (a)(1) through (6) of this section by the compliance date specified in §63.11196. The oxygen level shall be monitored at the outlet of the boiler.
- (1) Each monitor must be installed, operated, and maintained according to the applicable procedures under Performance Specification 3 at 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to paragraph (c) of this section.
 - (2) You must conduct a performance evaluation of each CEMS according to the requirements in §63.8(e) and according to Performance Specification 3 at 40 CFR part 60, appendix B.
 - (3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.
 - (4) The CEMS data must be reduced as specified in §63.8(g)(2).
 - (5) You must calculate and record the 12-hour block average concentrations.
 - (6) For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, excluding data collected during periods when the monitoring system malfunctions or is out of control, during associated repairs, and during required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments). Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for

which the monitoring system malfunctions or is out of control and data are not available for a required calculation constitutes a deviation from the monitoring requirements. Periods when data are unavailable because of required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments) do not constitute monitoring deviations.

- (b) If you are using a control device to comply with the emission limits specified in Table 1 to this subpart, you must maintain each operating limit in Table 3 to this subpart that applies to your boiler as specified in Table 7 to this subpart. If you use a control device not covered in Table 3 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under §63.8(f).
- (c) If you demonstrate compliance with any applicable emission limit through stack testing and subsequent compliance with operating limits, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).
 - (1) For each continuous monitoring system (CMS) required in this section, you must develop, and submit to the EPA Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (b)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan (if requested) at least 60 days before your initial performance evaluation of your CMS.
 - (i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device).
 - (ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.
 - (iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).
 - (2) In your site-specific monitoring plan, you must also address paragraphs (b)(2)(i) through (iii) of this section.
 - (i) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1), (3), and (4)(ii).
 - (ii) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d).
 - (iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c), (e)(1), and (e)(2)(i).
 - (3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.
 - (4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.
- (d) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each continuous parameter monitoring system according to the procedures in paragraphs (d)(1) through (5) of this section.
 - (1) The continuous parameter monitoring system must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data.
 - (2) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span

- adjustments), you must conduct all monitoring in continuous operation at all times that the unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
- (3) For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out of control periods, or required quality assurance or control activities. You must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for a required calculation constitutes a deviation from the monitoring requirements.
 - (4) Determine the 12-hour block average of all recorded readings, except as provided in paragraph (d)(3) of this section.
 - (5) Record the results of each inspection, calibration, and validation check.
- (e) If you have an applicable opacity operating limit under this rule, you must install, operate, certify and maintain each continuous opacity monitoring system (COMS) according to the procedures in paragraphs (e)(1) through (7) of this section by the compliance date specified in §63.11196.
- (1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 of 40 CFR part 60, appendix B.
 - (2) You must conduct a performance evaluation of each COMS according to the requirements in §63.8 and according to Performance Specification 1 of 40 CFR part 60, appendix B.
 - (3) As specified in §63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
 - (4) The COMS data must be reduced as specified in §63.8(g)(2).
 - (5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in §63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.
 - (6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of §63.8(e). Identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.
 - (7) You must determine and record all the 1-hour block averages collected for periods during which the COMS is not out of control.
- (f) If you use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate the bag leak detection system as specified in paragraphs (f)(1) through (8) of this section.
- (1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.
 - (2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with EPA-454/R-98-015 (incorporated by reference, see §63.14).
 - (3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.
 - (4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.

- (5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.
- (6) The bag leak detection system must be equipped with an audible or visual alarm system that will activate automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard or seen by plant operating personnel.
- (7) For positive pressure fabric filter systems that do not duct all compartments of cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.
- (8) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

§ 63.11225 *What are my notification, reporting, and recordkeeping requirements?*

- (a) You must submit the notifications specified in paragraphs (a)(1) through (a)(5) of this section to the delegated authority.
 - (1) You must submit all of the notifications in §§63.7(b); 63.8(e) and (f); 63.9(b) through (e); and 63.9(g) and (h) that apply to you by the dates specified in those sections.
 - (2) As specified in §63.9(b)(2), you must submit the Initial Notification no later than 120 calendar days after May 20, 2011 or within 120 days after the source becomes subject to the standard.
 - (3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin.
 - (4) You must submit the Notification of Compliance Status in accordance with §63.9(h) no later than 120 days after the applicable compliance date specified in §63.11196 unless you must conduct a performance stack test. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. In addition to the information required in §63.9(h)(2), your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:
 - (i) "This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler."
 - (ii) "This facility has had an energy assessment performed according to §63.11214(c)."
 - (iii) For an owner or operator that installs bag leak detection systems: "This facility has prepared a bag leak detection system monitoring plan in accordance with §63.11224 and will operate each bag leak detection system according to the plan."
 - (iv) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."
 - (5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart consistent with §63.7(e)(2)(iv), you must submit the test data in lieu of the initial performance test results with the Notification of Compliance Status required under paragraph (a)(4) of this section.
- (b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by

March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to a requirement to conduct a biennial tune-up according to §63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial compliance report as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report.

- (1) Company name and address.
 - (2) Statement by a responsible official, with the official's name, title, phone number, e-mail address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart.
 - (3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.
 - (4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under §241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of §241.3, and the total fuel usage amount with units of measure.
- (c) You must maintain the records specified in paragraphs (c)(1) through (5) of this section.
- (1) As required in §63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.
 - (2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 as specified in paragraphs (c)(2)(i) and (ii) of this section.
 - (i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.
 - (ii) Records documenting the fuel type(s) used monthly by each boiler, including, but not limited to, a description of the fuel, including whether the fuel has received a non-waste determination by you or EPA, and the total fuel usage amount with units of measure. If you combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §241.3(b)(1), you must keep a record which documents how the secondary material meets each of the legitimacy criteria. If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to §241.3(b)(4), you must keep records as to how the operations that produced the fuel satisfies the definition of processing in §241.2. If the fuel received a non-waste determination pursuant to the petition process submitted under §241.3(c), you must keep a record that documents how the fuel satisfies the requirements of the petition process.
 - (3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.
 - (4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.
 - (5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including

- corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.
- (6) You must keep the records of all inspection and monitoring data required by §§63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring.
- (i) The date, place, and time of the monitoring event.
 - (ii) Person conducting the monitoring.
 - (iii) Technique or method used.
 - (iv) Operating conditions during the activity.
 - (v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.
 - (vi) Maintenance or corrective action taken (if applicable).
- (7) If you use a bag leak detection system, you must keep the records specified in paragraphs (c)(7)(i) through (iii) of this section.
- (i) Records of the bag leak detection system output.
 - (ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.
 - (iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.
- (d) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each recorded action. You must keep each record onsite for at least 2 years after the date of each recorded action according to §63.10(b)(1). You may keep the records off site for the remaining 3 years.
- (e) As of January 1, 2012 and within 60 days after the date of completing each performance test, as defined in §63.2, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (i.e., reference method) data and performance test (i.e., compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see http://www.epa.gov/ttn/chief/ert/ert_tool.html/) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.
- (f) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:
- (1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will commence burning solid waste, and the date of the notice.
 - (2) The currently applicable subcategory under this subpart.
 - (3) The date on which you became subject to the currently applicable emission limits.
 - (4) The date upon which you will commence combusting solid waste.
- (g) If you intend to switch fuels, and this fuel switch may result in the applicability of a different subcategory or a switch out of subpart JJJJJJ due to a switch to 100 percent natural gas, you must provide 30 days prior notice of the date upon which you will switch fuels. The notification must identify:

- (1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will switch fuels, and the date of the notice.
- (2) The currently applicable subcategory under this subpart.
- (3) The date on which you became subject to the currently applicable standards.
- (4) The date upon which you will commence the fuel switch.

§ 63.11226 How can I assert an affirmative defense if I exceed an emission limit during a malfunction?

In response to an action to enforce the standards set forth in paragraph §63.11201 you may assert an affirmative defense to a claim for civil penalties for exceedances of numerical emission limits that are caused by malfunction, as defined at §63.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

- (a) To establish the affirmative defense in any action to enforce such a limit, you must timely meet the notification requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:
 - (1) The excess emissions:
 - (i) Were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner, and
 - (ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and
 - (iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and
 - (iv) Were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
 - (2) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and
 - (3) The frequency, amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions; and
 - (4) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
 - (5) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health; and
 - (6) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and
 - (7) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs; and
 - (8) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions; and
 - (9) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

- (b) Notification. The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than two business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in §63.11201 to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

Other Requirements and Information

§ 63.11235 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§ 63.11236 Who implements and enforces this subpart?

- (a) This subpart can be implemented and enforced by EPA or a delegated authority such as your state, local, or tribal agency. If the EPA Administrator has delegated authority to your state, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your state, local, or tribal agency.
- (b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (c) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency.
- (c) The authorities that cannot be delegated to state, local, or tribal agencies are specified in paragraphs (c)(1) through (5) of this section.
- (1) Approval of an alternative non-opacity emission standard and work practice standards in §63.11223(a).
 - (2) Approval of alternative opacity emission standard under §63.6(h)(9).
 - (3) Approval of major change to test methods under §63.7(e)(2)(ii) and (f). A "major change to test method" is defined in §63.90.
 - (4) Approval of a major change to monitoring under §63.8(f). A "major change to monitoring" is defined in §63.90.
 - (5) Approval of major change to recordkeeping and reporting under §63.10(f). A "major change to recordkeeping/reporting" is defined in §63.90.

§ 63.11237 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2 (the General Provisions), and in this section as follows:

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Annual heat input basis means the heat input for the 12 months preceding the compliance demonstration.

Bag leak detection system means a group of instruments that is capable of monitoring particulate matter loadings in the exhaust of a fabric filter (i.e., baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

Biomass means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds. This definition of biomass is not intended to suggest that these materials are or are not solid waste.

Biomass subcategory includes any boiler that burns at least 15 percent biomass on an annual heat input basis.

Boiler means an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/or oxidizer feed rates are controlled. Waste heat boilers are excluded from this definition.

Boiler system means the boiler and associated components, such as, the feedwater system, the combustion air system, the boiler fuel system (including burners), blowdown system, combustion control system, steam system, and condensate return system.

Coal means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in ASTM D388 (incorporated by reference, see §63.14), coal refuse, and petroleum coke. For the purposes of this subpart, this definition of "coal" includes synthetic fuels derived from coal including, but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures. Coal derived gases are excluded from this definition.

Coal subcategory includes any boiler that burns any solid fossil fuel and no more than 15 percent biomass on an annual heat input basis.

Commercial boiler means a boiler used in commercial establishments such as hotels, restaurants, and laundries to provide electricity, steam, and/or hot water.

Deviation

- (1) Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:
 - (i) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard;
 - (ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or
- (2) A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the standard is up to the discretion of the entity responsible for enforcement of the standards.

Dry scrubber means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems in fluidized bed boilers are included in this definition. A dry scrubber is a dry control system.

Electrostatic precipitator (ESP) means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper. An electrostatic precipitator is a dry control system, except when it is operated with a wet scrubber.

Energy assessment means the following only as this term is used in Table 3 to this subpart:

- (1) Energy assessment for facilities with affected boilers using less than 0.3 trillion Btu (TBtu) per year heat input will be one day in length maximum. The boiler system and energy use system accounting for at least 50 percent of the affected boiler(s) energy output will be evaluated to identify energy savings opportunities, within the limit of performing a one day energy assessment.
- (2) Energy assessment for facilities with affected boilers and process heaters using 0.3 to 1 TBtu/year will be three days in length maximum. The boiler system(s) and any energy use system(s) accounting for at least 33 percent of the affected boiler(s) energy output will be evaluated to identify energy savings opportunities, within the limit of performing a 3-day energy assessment.
- (3) Energy assessment for facilities with affected boilers and process heaters using greater than 1.0 TBtu/year, the boiler system(s) and any energy use system(s) accounting for at least 20 percent of the affected boiler(s) energy output will be evaluated to identify energy savings opportunities.

Energy use system includes, but not limited to, process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air-conditioning (HVAC) systems; hot heater systems; building envelop; and lighting.

Equivalent means the following only as this term is used in Table 5 to this subpart:

- (1) An equivalent sample collection procedure means a published voluntary consensus standard or practice (VCS) or EPA method that includes collection of a minimum of three composite fuel samples, with each composite consisting of a minimum of three increments collected at approximately equal intervals over the test period.
- (2) An equivalent sample compositing procedure means a published VCS or EPA method to systematically mix and obtain a representative subsample (part) of the composite sample.
- (3) An equivalent sample preparation procedure means a published VCS or EPA method that: Clearly states that the standard, practice or method is appropriate for the pollutant and the fuel matrix; or is cited as an appropriate sample preparation standard, practice or method for the pollutant in the chosen VCS or EPA determinative or analytical method.
- (4) An equivalent procedure for determining heat content means a published VCS or EPA method to obtain gross calorific (or higher heating) value.
- (5) An equivalent procedure for determining fuel moisture content means a published VCS or EPA method to obtain moisture content. If the sample analysis plan calls for determining mercury using an aliquot of the dried sample, then the drying temperature must be modified to prevent vaporizing this metal. On the other hand, if metals analysis is done on an "as received" basis, a separate aliquot can be dried to determine moisture content and the mercury concentration mathematically adjusted to a dry basis.
- (6) An equivalent mercury determinative or analytical procedure means a published VCS or EPA method that clearly states that the standard, practice, or method is appropriate for mercury and the fuel matrix and has a published detection limit equal or lower than the methods listed in Table 5 to this subpart for the same purpose.

Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse. A fabric filter is a dry control system.

Federally enforceable means all limitations and conditions that are enforceable by the EPA Administrator, including the requirements of 40 CFR part 60 and 40 CFR part 61, requirements within any applicable state implementation plan, and any permit requirements established under §§52.21 or under 51.18 and §51.24.

Fuel type means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, sub-bituminous coal, lignite, anthracite, biomass, distillate

oil, residual oil. Individual fuel types received from different suppliers are not considered new fuel types.

Gaseous fuels includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, hydrogen, and biogas.

Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

Heat input means heat derived from combustion of fuel in a boiler and does not include the heat input from preheated combustion air, recirculated flue gases, or returned condensate.

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous or liquid fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which the heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210 degrees Fahrenheit (99 degrees Celsius).

Industrial boiler means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

Institutional boiler means a boiler used in institutional establishments such as medical centers, research centers, and institutions of higher education to provide electricity, steam, and/or hot water.

Liquid fuel means, but not limited to, petroleum, distillate oil, residual oil, any form of liquid fuel derived from petroleum, used oil, liquid biofuels, and biodiesel.

Minimum activated carbon injection rate means load fraction (percent) multiplied by the lowest 1-hour average activated carbon injection rate measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits.

Minimum oxygen level means the lowest 1-hour average oxygen level measured according to Table 6 of this subpart during the most recent performance stack test demonstrating compliance with the applicable CO emission limit.

Minimum PM Scrubber pressure drop means the lowest 1-hour average PM scrubber pressure drop measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

Minimum sorbent flow rate means the boiler load (percent) multiplied by the lowest 2-hour average sorbent (or activated carbon) injection rate measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits.

Minimum voltage or amperage means the lowest 1-hour average total electric power value (secondary voltage × secondary current = secondary electric power) to the electrostatic precipitator measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits.

Natural gas means:

- (1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane including intermediate gas streams generated during processing of natural gas at production sites or at gas processing plants; or
- (2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §63.14).
- (3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

- (4) Propane or propane-derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C₃H₈.

Oil subcategory includes any boiler that burns any liquid fuel and is not in either the biomass or coal subcategories. Gas-fired boilers that burn liquid fuel during periods of gas curtailment, gas supply emergencies, or for periodic testing not to exceed 48 hours during any calendar year are not included in this definition.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Particulate matter (PM) means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an alternative method.

Performance testing means the collection of data resulting from the execution of a test method used (either by stack testing or fuel analysis) to demonstrate compliance with a relevant emission standard.

Period of natural gas curtailment or supply interruption means a period of time during which the supply of natural gas to an affected facility is halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or supply interruption.

Qualified energy assessor means:

- (1) someone who has demonstrated capabilities to evaluate a set of the typical energy savings opportunities available in opportunity areas for steam generation and major energy using systems, including, but not limited to:
- (i) Boiler combustion management.
 - (ii) Boiler thermal energy recovery, including
 - (A) Conventional feed water economizer,
 - (B) Conventional combustion air preheater, and
 - (C) Condensing economizer.
 - (iii) Boiler blowdown thermal energy recovery.
 - (iv) Primary energy resource selection, including
 - (A) Fuel (primary energy source) switching, and
 - (B) Applied steam energy versus direct-fired energy versus electricity.
 - (v) Insulation issues.
 - (vi) Steam trap and steam leak management.
 - (vi) Condensate recovery.
 - (viii) Steam end-use management.
- (2) Capabilities and knowledge includes, but is not limited to:
- (i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.
 - (ii) Familiarity with operating and maintenance practices for steam or process heating systems.
 - (iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.
 - (iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.

- (v) Boiler-steam turbine cogeneration systems.
- (vi) Industry specific steam end-use systems.

Responsible official means responsible official as defined in §70.2.

Solid fossil fuel includes, but not limited to, coal, petroleum coke, and tire derived fuel.

Waste heat boiler means a device that recovers normally unused energy and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, which is promulgated pursuant to section 112(h) of the Clean Air Act.

Table 1 to Subpart JJJJJJ of Part 63_Emission Limits

[As stated in § 63.11201, you must comply with the following applicable emission limits:]

If your boiler is in this subcategory	For the following pollutants.	You must achieve less than or equal to the following emission limits, except during periods of startup and shutdown.
1. New coal-fired boiler with heat input capacity of 30 million Btu per hour or greater.	a. Particulate Matter.	0.03 lb per MMBtu of heat input.
	b. Mercury.....	0.0000048 lb per MMBtu of heat input.
	c. Carbon Monoxide.	400 ppm by volume on a dry basis corrected to 3 percent oxygen.
2. New coal-fired boiler with heat input capacity of between 10 and 30 million Btu per hour.	a. Particulate Matter.	0.42 lb per MMBtu of heat input.
	b. Mercury.....	0.0000048 lb per MMBtu of heat input.
	c. Carbon Monoxide.	400 ppm by volume on a dry basis corrected to 3 percent oxygen.
3. New biomass-fired boiler with heat input capacity of 30 million Btu per hour or greater.	a. Particulate Matter.	0.03 lb per MMBtu of heat input.
4. New biomass fired boiler with heat input capacity of between 10 and 30 million Btu per hour.	a. Particulate Matter.	0.07 lb per MMBtu of heat input.
5. New oil-fired boiler with heat input capacity of 10	a. Particulate Matter.	0.03 lb per MMBtu of heat input.

million Btu per hour or greater.

- | | | |
|--|---------------------|---|
| 6. Existing coal (units with heat input capacity of 10 million Btu per hour or greater). | a. Mercury..... | 0.0000048 lb per MMBtu of heat input. |
| | b. Carbon Monoxide. | 400 ppm by volume on a dry basis corrected to 3 percent oxygen. |

Table 3 to Subpart JJJJJJ of Part 63_Operating Limits for Boilers With Emission Limits
[As stated in § 63.11201, you must comply with the applicable operating limits:]

If you demonstrate compliance with applicable emission limits using: You must meet these operating limits.

- | | | |
|---|----|---|
| 1. Fabric filter control..... | a. | Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR |
| | b. | Install and operate a bag leak detection system according to § 63.11224 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period. |
| 2. Electrostatic precipitator control. | a. | Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR |
| | b. | Maintain the secondary power input of the electrostatic precipitator at or above the lowest 1-hour average secondary electric power measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations. |
| 3. Wet PM scrubber control... | | Maintain the pressure drop at or above the lowest 1-hour average pressure drop across the wet scrubber and the liquid flow-rate at or above the lowest 1-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with the PM emission limitation. |
| 4. Dry sorbent or carbon injection control. | | Maintain the sorbent or carbon injection rate at or above the lowest 2-hour average sorbent flow rate measured during the most recent performance test demonstrating compliance with the |

- mercury emissions limitation. When your boiler operates at lower loads, multiply your sorbent or carbon injection rate by the load fraction (e.g., actual heat input divided by the heat input during performance stack test, for 50 percent load, multiply the injection rate operating limit by 0.5).
5. Any other add-on air pollution control type. This option is for boilers that operate dry control systems. Boilers must maintain opacity to less than or equal to 10 percent opacity (daily block average).
 6. Fuel analysis..... Maintain the fuel type or fuel mixture (annual average) such that the mercury emission rates calculated according to § 63.11211(b) is less than the applicable emission limits for mercury.
 7. Performance stack testing. For boilers that demonstrate compliance with a performance stack test, maintain the operating load of each unit such that it does not exceed 110 percent of the average operating load recorded during the most recent performance stack test.
 8. Continuous Oxygen Monitor. Maintain the oxygen level at or above the lowest 1-hour average oxygen level measured during the most recent CO performance stack test.

Table 4 to Subpart JJJJJJ of Part 63_Performance (Stack) Testing Requirements

[As stated in § 63.11212, you must comply with the following requirements for performance (stack) test for affected sources:]

To conduct a performance test for the following pollutant. . .		You must. . .	Using. . .
1. Particulate Matter.....	a. Select sampling ports location and the number of traverse points.		Method 1 in appendix A-1 to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.		Method 2, 2F, or 2G in appendix A-2 to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas.		Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00

- (Reapproved 2005),
\a\ or ANSI/ASME
PTC 19.10-1981.\a\
- d. Measure the moisture content of the stack gas. Method 4 in appendix A-3 to part 60 of this chapter.
 - e. Measure the particulate matter emission concentration. Method 5 or 17 (positive pressure fabric filters must use Method 5D) in appendix A-3 and A-6 to part 60 of this chapter and a minimum 1 dscm of sample volume per run.
 - f. Convert emissions concentration to lb/MMBtu emission rates. Method 19 F-factor methodology in appendix A-7 to part 60 of this chapter.
2. Mercury.....
- a. Select sampling ports location and the number of traverse points. Method 1 in appendix A-1 to part 60 of this chapter.
 - b. Determine velocity and volumetric flow-rate of the stack gas. Method 2, 2F, or 2G in appendix A-2 to part 60 of this chapter.
 - c. Determine oxygen and carbon dioxide concentrations of the stack gas. Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), \a\ or ANSI/ASME PTC 19.10-1981. \a\
 - d. Measure the moisture content of the stack gas. Method 4 in appendix A-3 to part 60 of this chapter.
 - e. Measure the mercury emission concentration. Method 29, 30A, or 30B in appendix A-8 to part 60 of this chapter or Method 101A in appendix B to part 61 of this chapter or ASTM Method D6784-02.\a\ Collect a minimum 2 dscm of sample volume with Method 29 of 101A per run.

- Use a minimum run time of 2 hours with Method 30A.
- f. Convert emissions concentration to lb/MMBtu emission rates. Method 19 F-factor methodology in appendix A-7 to part 60 of this chapter.
3. Carbon Monoxide..... a. Select the sampling ports location and the number of traverse points. Method 1 in appendix A-1 to part 60 of this chapter.
- b. Determine oxygen and carbon dioxide concentrations of the stack gas. Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), \a\ or ANSI/ASME PTC 19.10-1981.\a\
- c. Measure the moisture content of the stack gas. Method 4 in appendix A-3 to part 60 of this chapter.
- d. Measure the carbon monoxide emission concentration. Method 10, 10A, or 10B in appendix A-4 to part 60 of this chapter or ASTM D6522-00 (Reapproved 2005) \a\ and a minimum 1 hour sampling time per run.

 \a\ Incorporated by reference, see § 63.14.

Table 5 to Subpart JJJJJJ of Part 63_Fuel Analysis Requirements

[As stated in § 63.11213, you must comply with the following requirements for fuel analysis testing for affected sources:]

To conduct a fuel analysis for the following pollutant		You must. . .	Using . . .
1. Mercury.....	a. Collect fuel samples.		Procedure in § 63.11213(b) or ASTM D2234/D2234M \a\ (for coal) or ASTM D6323 \a\ (for biomass) or equivalent.
	b. Compose fuel samples.		Procedure in § 63.11213(b) or

- c. Prepare composited fuel samples. equivalent.
EPA SW-846-3050B \a\
(for solid samples)
or EPA SW-846-3020A
\a\
(for liquid samples) or ASTM
D2013/D2013M \a\
(for coal) or ASTM
D5198 \a\
(for biomass) or
equivalent.
- d. Determine heat content of the fuel type. ASTM D5865 \a\
(for coal) or ASTM E711
\a\
(for biomass)
or equivalent.
- e. Determine moisture content of the fuel type. ASTM D3173 \a\
or
ASTM E871 \a\
or
equivalent.
- f. Measure mercury concentration in fuel sample. ASTM D6722 \a\
(for coal) or EPA SW-846-
7471B \a\
(for solid samples) or
EPA SW-846-7470A
\a\
(for liquid samples) or
equivalent.
- g. Convert concentrations into units of lb/MMBtu of heat content

\a\
Incorporated by reference, see § 63.14.

Table 7 to Subpart DDDDD of Part 63_Demonstrating Continuous Compliance

[As stated in § 63.11222, you must show continuous compliance with the emission limitations for affected sources according to the following:]

If you must meet the following operating limits.	You must demonstrate continuous compliance by.

1. Opacity.....	a. Collecting the opacity monitoring system data according to § 63.11224(e) and § 63.11221; and
	b. Reducing the opacity monitoring data to 6-minute averages; and
	c. Maintaining opacity to less than or equal to 10 percent (daily block average).
2. Fabric filter bag leak detection operation.	Installing and operating a bag leak detection system according to § 63.11224 and operating the fabric filter

such that the requirements in § 63.11222(a)(4) are met.

3. Wet scrubber pressure drop and liquid flow-rate.
 - a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§ 63.11224 and 63.11221; and
 - b. Reducing the data to 12-hour block averages; and
 - c. Maintaining the 12-hour average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to § 63.1140.
4. Dry scrubber sorbent or carbon injection rate.
 - a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to §§ 63.11224 and 63.11220; and
 - b. Reducing the data to 12-hour block averages; and
 - c. Maintaining the 12-hour average sorbent or carbon injection rate at or above the minimum sorbent or carbon injection rate as defined in § 63.11237.
5. Electrostatic precipitator secondary amperage and voltage, or total power input.
 - a. Collecting the secondary amperage and voltage, or total power input monitoring system data for the electrostatic precipitator according to §§ 63.11224 and 63.11220; and
 - b. Reducing the data to 12-hour block averages; and
 - c. Maintaining the 12-hour average secondary amperage and voltage, or total power input at or above the operating limits established during the performance test according to § 63.11214.
6. Fuel pollutant content....
 - a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to § 63.11214 as applicable; and
 - b. Keeping monthly records of fuel use according to § 63.11222.
7. Oxygen content.....
 - a. Continuously monitor the oxygen content in the combustion exhaust according to § 63.11224.
 - b. Maintain the 12-hour average oxygen content at or above the operating limit established during the most recent carbon monoxide performance test.

Table 8 to Subpart JJJJJJ of Part 63_Applicability of General Provisions to Subpart JJJJJJ
[As stated in § 63.11235, you must comply with the applicable General Provisions according to the following:]

General provisions cite	Subject	Does it apply?
§ 63.1.....	Applicability.....	Yes.
§ 63.2.....	Definitions.....	Yes. Additional terms defined in § 63.11237.
§ 63.3.....	Units and Abbreviations.	Yes.
§ 63.4.....	Prohibited Activities and Circumvention.	Yes.
§ 63.5.....	Preconstruction Review and Notification Requirements.	No
§ 63.6(a), (b)(1)-(b)(5), (b)(7), (c), (f)(2)-(3), (g), (i), (j).	Compliance with Standards and Maintenance Requirements.	Yes.
§ 63.6(e)(1)(i).....	General Duty to minimize emissions.	No. See § 63.11205 for general duty requirement.
§ 63.6(e)(1)(ii).....	Requirement to correct malfunctions ASAP.	No.
§ 63.6(e)(3).....	SSM Plan.....	No.
§ 63.6(f)(1).....	SSM exemption.....	No.
§ 63.6(h)(1).....	SSM exemption.....	No.
§ 63.6(h)(2) to (9).....	Determining compliance with opacity emission standards.	Yes.
§ 63.7(a), (b), (c), (d), (e)(2)-(e)(9), (f), (g), and (h).	Performance Testing Requirements.	Yes.
§ 63.7(e)(1).....	Performance testing.	No. See § 63.11210.
§ 63.8(a), (b), (c)(1), (c)(1)(ii), (c)(2) to (c)(9), (d)(1) and (d)(2), (e),(f), and (g).	Monitoring Requirements.	Yes.
§ 63.8(c)(1)(i).....	General duty to minimize emissions and CMS	No.

	operation.	
§ 63.8(c)(1)(iii).....	Requirement to develop SSM Plan for CMS.	No.
§ 63.8(d)(3).....	Written procedures for CMS.	Yes, except for the last sentence, which refers to an SSM plan. SSM plans are not required.
§ 63.9.....	Notification Requirements.	Yes.
§ 63.10(a) and (b)(1).....	Recordkeeping and Reporting Requirements.	Yes.
§ 63.10(b)(2)(i).....	Recordkeeping of occurrence and duration of startups or shutdowns.	No.
§ 63.10(b)(2)(ii).....	Recordkeeping of malfunctions.	No. See § 63.11225 for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunctions.
§ 63.10(b)(2)(iii).....	Maintenance records.	Yes.
§ 63.10(b)(2)(iv) and (v)..	Actions taken to minimize emissions during SSM.	No.
§ 63.10(b)(2)(vi).....	Recordkeeping for CMS malfunctions.	Yes.
§ 63.10(b)(2)(vii) to (xiv)	Other CMS requirements.	Yes.
§ 63.10(b)(3).....	Recordkeeping requirements for applicability determinations.	No.
§ 63.10(c)(1) to (9).....	Recordkeeping for sources with CMS.	Yes.
§ 63.10(c)(10).....	Recording nature and cause of malfunctions.	No. See § 63.11225 for malfunction recordkeeping requirements.
§ 63.10(c)(11).....	Recording corrective	No. See § 63.11225 for

	actions.	malfunction recordkeeping requirements.
§ 63.10(c)(12) and (13)....	Recordkeeping for sources with CMS.	Yes.
§ 63.10(c)(15).....	Allows use of SSM plan.	No.
§ 63.10(d)(1) and (2).....	General reporting requirements.	Yes.
§ 63.10(d)(3).....	Reporting opacity or visible emission observation results.	No.
§ 63.10(d)(4).....	Progress reports under an extension of compliance.	Yes.
§ 63.10(d)(5).....	SSM reports.....	No. See § 63.11225 for malfunction reporting requirements.
§ 63.10(e) and (f).....	Yes.
§ 63.11.....	Control Device Requirements.	No.
§ 63.12.....	State Authority and Delegation.	Yes.
§ 63.13-63.16.....	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions.	Yes.
§ 63.1(a)(5), (a)(7)- (a)(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9).	Reserved.....	No.

View Printed Federal Register ([76 FR 15591](#)) page in PDF format.

Reference

The US EPA Electronic Code of Federal Regulations - 40 CFR 63, Subpart JJJJJJ—National Emission Standards for Industrial, Commercial, and Institutional Boilers Area Sources weblink:

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr;sid=fc2f490d56c4cdb99ca95b608f4a7040;rgn=div2;view=text;node=20110321%3A1.24;idno=40;cc=ecfr;start=1;size=25>



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 OMara Contractor Plant 0233
1100 East O & M Ave.
North Vernon, IN 47286

DATE: November 14, 2011

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

SUBJECT: Final Decision
FESOP
105-30998-05234

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

Mail Code 61-53

IDEM Staff	CDENNY 11/14/2011 Dave OMara Contractor Plant 0233 105-30998-05234 (final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
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2		MD Monroe County Health Department 119 W 7th St Bloomington IN 47404-3989 (Health Department)									
3		Mr. Wendell Hibdon Plumbers & Steam Fitters Union, Local 136 2300 St. Joe Industrial Park Dr Evansville IN 47720 (Affected Party)									
4		Bloomington City Council and Mayors Office 401 N. Morton St. Bloomington IN 47402 (Local Official)									
5		Mr. Richard Monday 545 E. Margaret Dr. Terre Haute IN 47801 (Affected Party)									
6		Monroe County Commissioners Monroe County Courthouse, Room 322 Bloomington IN 47404 (Local Official)									
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