



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: October 4, 2012

RE: Jerry David Enterprises, Inc. / 163 - 32093 - 00082

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

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot12/03/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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

Mr. Jon David
Jerry David Enterprises, Inc.
4301 Hogue Road
Evansville, IN 47712

October 4, 2012

Re: 163-32093-00082
First Significant Revision to
F 163-28873-00082

Dear Mr. David:

Jerry David Enterprises, Inc. was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F 163-28873-00082 on October 6, 2010 for a stationary batch-mix, hot-mix asphalt plant and a stationary ready-mix concrete batch plant located at 4301 Hogue Road, Evansville, Indiana. On July 5, 2012, the Office of Air Quality (OAQ) received an application from the source requesting to replace the dryer/mixer. The attached Technical Support Document (TSD) provides additional explanation of the changes to the source/permit. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

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

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Bruce Farrar, of my staff, at 317-234-5401 or 1-800-451-6027, and ask for extension 4-5401.

Sincerely,

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Document and revised permit

IC/bf

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



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

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

**Jerry David Enterprises, Inc.
4301 Hogue Road
Evansville, Indiana 47712**

(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. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-8-11.1, applicable to those conditions

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

Operation Permit No.: F163-28873-00082	
Original signed by: Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: October 6, 2010 Expiration Date: October 6, 2020

First Significant Permit Revision: 163-32093-00082	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: October 4, 2012 Expiration Date: October 6, 2020

TABLE OF CONTENTS

A. SOURCE SUMMARY	5
A.1 General Information [326 IAC 2-8-3(b)]	
A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]	
A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]	
A.4 FESOP Applicability [326 IAC 2-8-2]	
B. GENERAL CONDITIONS	9
B.1 Definitions [326 IAC 2-8-1]	
B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]	
B.3 Term of Conditions [326 IAC 2-1.1-9.5]	
B.4 Enforceability [326 IAC 2-8-6] [IC 13-17-12]	
B.5 Severability [326 IAC 2-8-4(4)]	
B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]	
B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]	
B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]	
B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]	
B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]	
B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]	
B.12 Emergency Provisions [326 IAC 2-8-12]	
B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]	
B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]	
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]	
B.16 Permit Renewal [326 IAC 2-8-3(h)]	
B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]	
B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]	
B.19 Source Modification Requirement [326 IAC 2-8-11.1]	
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]	
B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]	
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]	
B.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]	
C. SOURCE OPERATION CONDITIONS	19
Emission Limitations and Standards [326 IAC 2-8-4(1)]	
C.1 Overall Source Limit [326 IAC 2-8]	
C.2 Opacity [326 IAC 5-1]	
C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]	
C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]	
C.5 Fugitive Dust Emissions [326 IAC 6-4]	
C.6 Stack Height [326 IAC 1-7]	
C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6 5]	
C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]	
Testing Requirements [326 IAC 2-8-4(3)]	
C.9 Performance Testing [326 IAC 3-6]	
Compliance Requirements [326 IAC 2-1.1-11]	
C.10 Compliance Requirements [326 IAC 2-1.1-11]	

TABLE OF CONTENTS

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

- C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]
- C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)]
[326 IAC 2-8-5(1)]

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

- C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
- C.14 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]
- C.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]
- C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4]
[326 IAC 2-8-5]

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

- C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]
- C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

Stratospheric Ozone Protection

- C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS - Batch-mix, Hot-mix Asphalt Plant ... 26

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

- D.1.1 PSD Minor Limit [326 IAC 2-2]
- D.1.2 FESOP and PSD Minor Limits [326 IAC 2-8-4] [326 IAC 2-2]
- D.1.3 FESOP Limits [326 IAC 2-8-4] [326 IAC 2-1.1-5] [326 IAC 2-2]
- D.1.4 FESOP Limits: SO₂ [326 IAC 2-8-4]
- D.1.5 Particulate Matter (PM) [326 IAC 6.5-1-2]
- D.1.6 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1][326 IAC 7-2-1]
- D.1.7 Volatile Organic Compound Rules for Asphalt Pavers [326 IAC 8-5-2]
- D.1.8 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements

- D.1.9 Particulate Matter (PM, and PM₁₀) Control
- D.1.10 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]
- D.1.11 Sulfur Dioxide Emissions and Sulfur Content
- D.1.12 Multiple Fuel and Slag Usage Limitations

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

- D.1.13 Visible Emissions Notations
- D.1.14 Parametric Monitoring
- D.1.15 Broken or Failed Bag Detection

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

- D.1.16 Record Keeping Requirements
- D.1.17 Reporting Requirements

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS - Ready-mix Concrete Batch Plant..... 33

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

- D.2.1 PSD Minor Limit [326 IAC 2-2]
- D.2.2 FESOP Limits [326 IAC 2-8-4] [326 IAC 2-1.1-5] [326 IAC 2-2]
- D.2.3 Particulate Matter (PM) [326 IAC 6.5-1-2]

TABLE OF CONTENTS

D.2.4	Preventive Maintenance Plan [326 IAC 2-8-4(9)]	
Compliance Determination Requirements		
D.2.5	Particulate Matter (PM, and PM10) Control	
Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]		
D.2.6	Visible Emissions Notations	
D.2.7	Broken or Failed Bag Detection	
Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]		
D.2.8	Record Keeping Requirements	
D.2.9	Reporting Requirements	
SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS - Insignificant Activities		37
Emission Limitations and Standards [326 IAC 2-8-4(1)]		
D.3.1	Particulate Matter (PM) [326 IAC 6.5-1-2]	
SECTION E.1 NSPS REQUIREMENTS - Batch-mix, Hot-mix Asphalt Plant		38
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]	
E.1.2	New Source Performance Standards (NSPS) for Hot-mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12]	
E.1.3	Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]	
SECTION E.2 NESHAP REQUIREMENTS - Gasoline Dispensing Facilities		40
National Emission Standards for Hazardous Air Pollutants (NESHAPs) Requirements [326 IAC 2-8-4(1)]		
E.2.1	General Provisions Relating to NESHAP CCCCCC [326 IAC 20-1][40 CFR Part 63, Subpart A]	
E.2.2	National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities [40 CFR Part 63, Subpart CCCCCC]	
Certification Form.....		42
Emergency Occurrence Form.....		43
FESOP Quarterly Report Form.....		45
Quarterly Deviation and Compliance Monitoring Report Form.....		51
Attachment A: Asphalt Plant Site Fugitive Dust Control Plan		
Attachment B: NSPS Subpart I - Standards of Performance for Hot Mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12-1]		
Attachment C: NESHAP Subpart CCCCCC - Area Source Standards for Source Category: Gasoline Dispensing Facilities [40 CFR 63, Subpart 6C] [326 IAC 20]		

SECTION A SOURCE SUMMARY

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

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

The Permittee owns and operates a stationary batch-mix, hot-mix asphalt plant and a stationary ready-mix concrete batch plant. This source does not perform any crushing activities, does not use any slag or shingles in the asphalt aggregate mix, and does not manufacture and/or produce cold-mix asphalt.

Source Address:	4301 Hogue Road, Evansville, Indiana 47712
General Source Phone Number:	(812) 422-1827
SIC Code:	2951, 3273
County Location:	Vanderburgh
Source Location Status:	Attainment for all other 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 stationary source consists of the following emission units and pollution control devices:

- (a) One (1) batch hot-mix asphalt plant, consisting of the following:
 - (1) One (1) aggregate rotary dryer, identified as Heater 1, approved for construction in 2012, with a maximum burner heat input capacity of 80 million British thermal units per hour (mmBtu/hr), firing natural gas, No. 2 fuel oil, and No. 4 fuel oil, equipped with one (1) jetpulse baghouse, identified as BH1, for particulate control, and exhausting to the outside atmosphere;
 - (2) One (1) batch mixer (pugmill), approved for construction in 2012, with a maximum throughput capacity of 180 tons of aggregate per hour, equipped with one (1) jetpulse baghouse, identified as BH1, for particulate control, and exhausting to the outside atmosphere;
 - (3) Material handling, screening, and conveying operations, constructed in 1976 and approved for modification in 2012, uncontrolled and exhausting to the outside atmosphere, and consisting of the following:
 - (A) Aggregate storage piles consisting of limestone, sand, pre-sized recycled asphalt pavement (RAP), and gravel, as follows:
 - (i) Limestone storage piles, having a maximum height of thirteen (13) feet and a maximum storage capacity of fifteen hundred (1500) tons;

- (ii) Sand storage piles, having a maximum height of thirteen (13) feet and a maximum storage capacity of one thousand (1000) tons;
 - (iii) Pre-sized RAP storage piles, having a maximum height of thirteen (13) feet and a maximum storage capacity of five hundred (500) tons.
 - (iv) Gravel storage piles, having a maximum height of thirteen (13) feet and a maximum storage capacity of four hundred fifteen (415) tons;
- (B) Four (4) aggregate hoppers;
 - (C) One (1) screen deck;
 - (D) Three (3) belt conveyors;
 - (E) One (1) bucket elevator; and
 - (F) One (1) sixty (60) ton storage silo;

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities, this is considered an affected facility.

- (b) One (1) ready-mix concrete batch plant, constructed in 1996, with a maximum throughput capacity of sixty (60) yards of dry concrete mix per hour, a maximum of seven (7) yards per dry batch, and consisting of the following:
 - (1) Aggregate storage piles consisting of limestone, sand, and gravel, shared with the hot-mix asphalt plant and listed above;
 - (2) One (1) cement storage silo, with a maximum storage capacity of sixty-five (65) tons, equipped with a baghouse for particulate control, and exhausting to the atmosphere;
 - (3) One (1) cement supplement storage silo, with a maximum storage capacity of sixty-five (65) tons and equipped with one (1) baghouse for particulate control, and exhausting to the atmosphere.
 - (4) One (1) enclosed aggregate handling operation, uncontrolled, and exhausting to the atmosphere including:
 - (A) One (1) aggregate hopper;
 - (B) Two (2) belt conveyors;
 - (C) Four (4) overhead aggregate bins;
 - (D) One (1) aggregate weighing scale, with a maximum throughput capacity of ninety-one (91) tons per hour;
 - (5) One (1) completely enclosed cement batch scale, with a maximum throughput capacity of sixty (60) yards per hour, and seven (7) yards per batch, equipped with one (1) baghouse for particulate control, and exhausting the atmosphere;

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) Cold-mix (stockpile mix) asphalt storage piles, with a maximum annual storage capacity of forty (40) tons; [326 IAC 8-5-2]
- (b) One (1) liquid asphalt cement hot oil heating system, constructed in 1997, including one (1) natural gas-fired hot oil heater, identified as Heater 2, with a maximum heat input capacity of one (1.00) million British thermal units per hour, uncontrolled and exhausting to the outside atmosphere; [326 IAC 6.5]
- (c) One (1) natural gas-fired hot water heater for the ready-mix concrete batch plant, constructed in 2006, with a maximum heat input capacity of three and five tenths (3.5) million British thermal units per hour, uncontrolled and exhausting to the outside atmosphere; [326 IAC 6.5]
- (d) Paved roads and parking lots with public access. [326 IAC 6-4]
- (e) One (1) 5,000 gallon No. 2 Fuel Oil storage tank, identified as Tank 1, constructed in 1990, uncontrolled and exhausting to the outside atmosphere;
- (f) One (1) 1,000 gallon No. 2 Fuel Oil storage tank, identified as Tank 2, constructed in 1990, uncontrolled and exhausting to the outside atmosphere;
- (g) One (1) 500 gallon No. 2 Fuel Oil storage tank, identified as Tank 3, constructed in 1990, uncontrolled and exhausting to the outside atmosphere;
- (h) One (1) 8,000 gallon No. 4 Fuel Oil storage tank, identified as Tank 6, constructed in 1990, uncontrolled and exhausting to the outside atmosphere; and
- (i) One (1) 15,000 gallon liquid asphalt storage tank, identified as Tank 7, constructed in 1990, uncontrolled and exhausting to the atmosphere.
- (j) One (1) gasoline fuel transfer and dispensing operation, handling less than or equal to 1,300 gallons per day, having a maximum storage capacity less than or equal to 10,500 gallons, and including one (1) five hundred (500) gallon gasoline storage tank, identified as Tank 4, constructed in 1990, uncontrolled and exhausting to the outside atmosphere.

Under 40 CFR 63, Subpart CCCCCC: National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, the gasoline fuel transfer and dispensing operation, including the five hundred (500) gallon gasoline storage tank, is considered an affected facility.
- (k) Miscellaneous VOC and HAP Storage tanks, each with capacities less than or equal to 1,000 gallons, and annual throughputs of less than 12,000 gallons, including but not limited to;
 - (1) One (1) 250 gallon kerosene storage tank, identified as Tank 5, constructed in 1990, uncontrolled and exhausting to the outside atmosphere;
- (l) Vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids;
- (m) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;

- (n) Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.

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

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

SECTION B GENERAL CONDITIONS

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

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

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

- (a) This permit, F163-28873-00082, 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:
- (i) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
 - (ii) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

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

- (a) The Permittee shall annually submit a compliance certification report, which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than April 15 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)]

(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 Southwest 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
Southwest Regional Office phone: (812) 380-2305; fax: (812) 380-2304.

- (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 F163-28873-00082 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) and (c) 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)(1) and (c). 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)(1) and (c).

- (b) Emission Trades [326 IAC 2-8-15(b)]
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(b).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(c)]
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 Overall Source Limit [326 IAC 2-8]

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

- (a) Pursuant to 326 IAC 2-8:
 - (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
 - (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
 - (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.
- (c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.
- (d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.2 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 thirty percent (30%) 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.3 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.4 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.5 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.6 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.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 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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

All required notifications shall be submitted to:

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

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

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

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

C.9 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.10 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.11 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.12 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.13 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.14 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.15 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.16 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.17 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. Support information includes the following:
 - (AA) All calibration and maintenance records.
 - (BB) All original strip chart recordings for continuous monitoring instrumentation.
 - (CC) Copies of all reports required by the FESOP.Records of required monitoring information include the following:
 - (AA) The date, place, as defined in this permit, and time of sampling or measurements.
 - (BB) The dates analyses were performed.
 - (CC) The company or entity that performed the analyses.
 - (DD) The analytical techniques or methods used.
 - (EE) The results of such analyses.
 - (FF) The operating conditions as existing at the time of sampling or measurement.

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

Indiana Department of Environmental Management

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

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.19 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

Emissions Unit Description: Batch-mix, Hot-mix Asphalt Plant

- (a) One (1) batch hot-mix asphalt plant, consisting of the following:
- (1) One (1) aggregate rotary dryer, identified as Heater 1, approved for construction in 2012, with a maximum burner heat input capacity of 80 million British thermal units per hour (mmBtu/hr), firing natural gas, No. 2 fuel oil, and No. 4 fuel oil, equipped with one (1) jetpulse baghouse, identified as BH1, for particulate control, and exhausting to the outside atmosphere;
 - (2) One (1) batch mixer (pugmill), approved for construction in 2012, with a maximum throughput capacity of 180 tons of aggregate per hour, equipped with one (1) jetpulse baghouse, identified as BH1, for particulate control, and exhausting to the outside atmosphere;
 - (3) Material handling, screening, and conveying operations, constructed in 1976 and approved for modification in 2012, uncontrolled and exhausting to the outside atmosphere, and consisting of the following:
 - (A) Aggregate storage piles consisting of limestone, sand, pre-sized recycled asphalt pavement (RAP), and gravel, as follows:
 - (i) Limestone storage piles, having a maximum height of thirteen (13) feet and a maximum storage capacity of fifteen hundred (1500) tons;
 - (ii) Sand storage piles, having a maximum height of thirteen (13) feet and a maximum storage capacity of one thousand (1000) tons;
 - (iii) Pre-sized RAP storage piles, having a maximum height of thirteen (13) feet and a maximum storage capacity of five hundred (500) tons.
 - (iv) Gravel storage piles, having a maximum height of thirteen (13) feet and a maximum storage capacity of four hundred fifteen (415) tons;
 - (B) Four (4) aggregate hoppers;
 - (C) One (1) screen deck;
 - (D) Three (3) belt conveyors;
 - (E) One (1) bucket elevator; and
 - (F) One (1) sixty (60) ton storage silo;

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities, this is considered an affected facility.

Emissions Unit Description: Insignificant Activities

- (a) Cold-mix (stockpile mix) asphalt storage piles, with a maximum annual storage capacity of forty (40) tons; [326 IAC 8-5-2]

(The information describing the process contained in this emissions unit description box is descriptive

information and does not constitute enforceable conditions.)

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

D.1.1 PSD Minor Limit [326 IAC 2-2]

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

- (a) The asphalt production rate shall not exceed 200,000 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 five hundred thousandths (0.50) pounds of PM per ton of asphalt produced.

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than two hundred fifty (250) tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.2 FESOP and PSD Minor Limits [326 IAC 2-8-4] [326 IAC 2-2]

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall not use slag as an aggregate additive in its hot-mix asphalt operations.

Compliance with this requirement, combined with the potential SO₂ emissions from all other emission units at this source, shall limit the source-wide total potential to emit SO₂ to less than one hundred (100) tons per twelve (12) consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.3 FESOP Limits PM₁₀, PM_{2.5} and CO [326 IAC 2-8-4] [326 IAC 2-1.1-5] [326 IAC 2-2]

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

- (a) The asphalt production rate shall not exceed 200,000 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 0.387 pounds of PM₁₀ per ton of asphalt produced.
- (c) PM_{2.5} emissions from the dryer/mixer shall not exceed 0.387 pounds of PM_{2.5} per ton of asphalt produced.
- (d) CO emissions from the dryer/mixer shall not exceed 0.40 pounds of CO per ton of asphalt produced.

Compliance with these limits, combined with the limited potential to emit PM₁₀, PM_{2.5}, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM₁₀, PM_{2.5} and CO to less than one hundred (100) tons per twelve (12) consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permit Program), 326 IAC 2-1.1-5 (Nonattainment New Source Review), and 326 IAC 2-2 (PSD) not applicable.

D.1.4 FESOP Limits: SO₂ [326 IAC 2-8-4]

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

- (a) 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 701 MMCF per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (2) No. 2 fuel oil usage shall not exceed 1,376,571 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 1,376,571 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) When combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, SO₂ emissions from the dryer/mixer burner shall not exceed 51.62 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the potential to emit SO₂ from all other emission units at this source, shall limit the source-wide total potential to emit of SO₂ to less than 100 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits not applicable).

D.1.5 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, material handling, screening, and conveying operations, shall each not exceed three-hundredths (0.03) grains per dry standard cubic foot of exhaust air.

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

Note: No. 2 and No.4 fuel oils are considered distillate oil.

D.1.7 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.

D.1.8 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements

D.1.9 Particulate Matter (PM, PM10, and PM2.5) Control

- (a) In order to comply with Conditions D.1.1, D.1.3, and D.1.5, the baghouse for particulate control 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.1.10 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), the Permittee shall perform PM testing of the dryer/mixer, not later than 180 days after installation of the dryer/mixer, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.
- (b) In order to demonstrate compliance with Condition D.1.3(b), the Permittee shall perform PM10 testing on the dryer/mixer not later than 180 days after installation of the dryer/mixer. This testing shall be conducted utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 includes filterable and condensable PM.
- (c) In order to demonstrate compliance with Condition D.1.3(c), the Permittee shall perform PM2.5 testing on the dryer/mixer not later than 180 days after installation of the dryer/mixer. This testing shall be conducted utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM2.5 includes filterable and condensable PM.

D.1.11 Sulfur Dioxide Emissions and Sulfur Content

Pursuant to 326 IAC 3-7-4 and 326 IAC 2-8-4, Compliance with the fuel limitations established in Conditions D.1.4, D.1.6(a) and D.1.6(b), shall be determined utilizing one of the following options. Compliance shall be demonstrated on a thirty (30) day calendar-month average.

- (1) Providing vendor analysis of heat content and sulfur content of the fuel delivered, if accompanied by a vendor certification; or

- (2) Analyzing the fuel sample to determine the sulfur content of the fuel via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Fuel samples may be collected from the fuel tank immediately after the fuel tank is filled and before any fuel is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the dryer/mixer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6

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

D.1.12 Multiple Fuel and Slag Usage Limitations

In order to comply with the Condition D.1.4(b) when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, the Permittee shall limit fuel usage according to the following formulas:

Sulfur Dioxide (SO₂) Emission Calculation

$$S = \frac{G(E_G) + O_2(E_{O_2}) + O_4(E_{O_4})}{2,000 \text{ lbs/ton}}$$

where:

- S = tons of sulfur dioxide emissions for a 12-month consecutive period
- G = million cubic feet of natural gas used in the last 12 months
- O₂ = gallons of No. 2 fuel oil used in the last 12 months
- O₄ = gallons of No. 4 fuel oil used in the last 12 months
- E_G = 0.6 lb/MMCF of natural gas
- E_{O₂} = 71.0 lb/1000 gallons of No. 2 fuel oil
- E_{O₄} = 75.0 lb/1000 gallons of No. 4 fuel oil

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 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 steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal

visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.1.14 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with the dryer/mixer, at least once per day when the dryer/mixer is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take reasonable response steps. The normal range for this unit is a pressure drop between five tenths (0.5) and six and five tenths (6.5) inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. 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.

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

D.1.15 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For a single compartment baghouses 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)] [326 IAC 2-8-16]

D.1.16 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.1.1(a), and D.1.3(a), the Permittee shall keep monthly records of the amount of asphalt processed through the dryer/mixer.
- (b) To document the compliance status with Conditions D.1.4, D.1.6 and D.1.11, the Permittee shall maintain records in accordance with (1) through (8) below. Records maintained for (1) through (8) below shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Condition D.1.5.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Actual fuel usage, sulfur content, and heat content, for each fuel used at the source since the last compliance determination period;

- (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and
- (4) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Fuel supplier certifications;
 - (ii) The name of the fuel supplier; and
 - (iii) A statement from the fuel supplier that certifies the sulfur content of the No. 2 and No. 4 fuel oils.

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.

- (e) To document the compliance status with Condition D.1.12, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack (SV1) exhaust once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (f) To document the compliance status with Condition D.1.13, the Permittee shall maintain records once per day of the pressure drop during normal operation. The Permittee shall include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).
- (g) Section C - General Record Keeping Requirements 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 compliance status with Conditions D.1.1(a), D.1.3(a), and D.1.4 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not 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.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Ready-mix Concrete Batch Plant

- (b) One (1) ready-mix concrete batch plant, constructed in 1996, with a maximum throughput capacity of sixty (60) yards of dry concrete mix per hour, a maximum of seven (7) yards per dry batch, and consisting of the following:
- (1) Aggregate storage piles consisting of limestone, sand, and gravel, shared with the hot-mix asphalt plant and listed above;
 - (2) One (1) cement storage silo, with a maximum storage capacity of sixty-five (65) tons, equipped with a baghouse for particulate control, and exhausting to the atmosphere;
 - (3) One (1) cement supplement storage silo, with a maximum storage capacity of sixty-five (65) tons and equipped with one (1) baghouse for particulate control, and exhausting to the atmosphere.
 - (4) One (1) enclosed aggregate handling operation, uncontrolled, and exhausting to the atmosphere including:
 - (A) One (1) aggregate hopper;
 - (B) Two (2) belt conveyors;
 - (C) Four (4) overhead aggregate bins;
 - (D) One (1) aggregate weighing scale, with a maximum throughput capacity of ninety-one (91) tons per hour;
 - (5) One (1) completely enclosed cement batch scale, with a maximum throughput capacity of sixty (60) yards per hour, and seven (7) yards per batch, equipped with one (1) baghouse for particulate control, and exhausting the atmosphere;

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

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

D.2.1 PSD Minor Limit [326 IAC 2-2]

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

- (a) The ready-mix concrete production shall not exceed 150,000 tons (equivalent to 75,000 cubic yards), per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) PM emissions from the truck loading operation shall not exceed nine hundred ninety-five thousandths (0.995) pounds of PM per ton of ready-mix concrete produced.
- (c) The amount cement used in the production of ready-mix concrete shall not exceed 24,273 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (d) PM emissions from the cement handling operations shall not exceed seventy-two hundredths (0.72) pounds of PM per ton of cement used in the production of ready-mix concrete.

- (e) The amount cement supplement used in the production of ready-mix concrete shall not exceed 20,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (f) PM emissions from the cement supplement handling operations shall not exceed three and fourteen hundredths (3.14) pounds of PM per ton of cement supplement used in the production of ready-mix concrete.

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than two hundred fifty (250) tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.2.2 FESOP Limits [326 IAC 2-8-4] [326 IAC 2-1.1-5] [326 IAC 2-2]

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

- (a) The ready-mix concrete production rate shall not exceed 150,000 tons (equivalent to 75,000 cubic yards), per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) PM10 emissions from the truck loading operation shall not exceed two hundred seventy-eight thousandths (0.278) pounds of PM10 per ton of ready-mix concrete produced.
- (c) PM2.5 emissions from the truck loading operation shall not exceed two hundred seventy-eight thousandths (0.278) pounds of PM2.5 per ton of ready-mix concrete produced.
- (d) The amount cement used in the production of ready-mix concrete shall not exceed 24,273 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (e) PM10 emissions from the cement handling operation shall not exceed forty-six hundredths (0.46) pounds of PM10 per ton of cement used in the production of ready-mix concrete.
- (f) PM2.5 emissions from the cement handling operation shall not exceed forty-six hundredths (0.46) pounds of PM2.5 per ton of cement used in the production of ready-mix concrete.
- (g) The amount cement supplement used in the production of ready-mix concrete shall not exceed 20,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (h) PM10 emissions from the cement supplement handling operation shall not exceed one and ten hundredths (1.10) pounds of PM10 per ton of cement supplement used in the production of ready-mix concrete.
- (i) PM2.5 emissions from the cement supplement handling operation shall not exceed one and ten hundredths (1.10) pounds of PM2.5 per ton of cement supplement used in the production of ready-mix concrete.

Compliance with these limits, combined with the potential to emit PM10 and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM10 and PM2.5 to less than one hundred (100) tons per twelve (12) consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permit Program), 326 IAC 2-1.1-5 (Nonattainment New Source Review), and 326 IAC 2-2 (PSD) not applicable.

D.2.3 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 material conveying, bulk powder (cement and cement supplement) handling, including the silo loading and weigh hopper loading, and the truck loading operations, each, shall not exceed three-hundredths (0.03) grains per dry standard cubic foot of exhaust air.

D.2.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements

D.2.5 Particulate Matter (PM, and PM10) Control

- (a) In order to comply with Condition D.2.3, the three (3) baghouses for particulate control shall be in operation and control emissions from the bulk powder (cement and cement supplement) handling operations, including the silo loading and weigh hopper loading, at all times when the ready-mix concrete batch plant 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.

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

D.2.6 Visible Emissions Notations

- (a) Visible emission notations of each of the three (3) ready-mix concrete batch plant baghouse stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. 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.2.7 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For a single compartment baghouses 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)] [326 IAC 2-8-16]

D.2.8 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.2.1(a), and D.2.2(a), the Permittee shall keep monthly records of the amount of ready-mix concrete produced.
- (b) To document the compliance status with Conditions D.2.1(c) and D.2.2(c), the Permittee shall keep monthly records of the amount of the amount of cement used in the production of ready-mix concrete.
- (c) To document the compliance status with Conditions D.2.1(e) and D.2.2(e), the Permittee shall keep monthly records of the amount of the amount of cement supplement(s) used in the production of ready-mix concrete.
- (d) To document the compliance status with Condition D.2.6, the Permittee shall maintain records of visible emission notations of each of the ready-mix concrete batch plant baghouse stack exhausts once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (e) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.2.9 Reporting Requirements

- (a) A quarterly summary of the information to document compliance status with Conditions D.2.1(a), D.2.1(c), D.2.1(e), D.2.2(a), D.2.2(c), and D.2.2(e), shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not 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

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (b) One (1) liquid asphalt cement hot oil heating system, constructed in 1997, including one (1) natural gas-fired hot oil heater, identified as Heater 2, with a maximum heat input capacity of one (1.00) million British thermal units per hour, uncontrolled and exhausting to the outside atmosphere; [326 IAC 6.5]
- (c) One (1) natural gas-fired hot water heater for the ready-mix concrete batch plant, constructed in 2006, with a maximum heat input capacity of three and five tenths (3.5) million British thermal units per hour, uncontrolled and exhausting to the outside atmosphere; [326 IAC 6.5]

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

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

D.3.1 Particulate 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 natural gas-fired hot oil heater, and natural gas-fired hot water heater, each, shall not exceed three-hundredths (0.03) grains per dry standard cubic foot.

SECTION E.1

NSPS REQUIREMENTS

Emissions Unit Description: Batch-mix, Hot-mix Asphalt Plant

- (a) One (1) batch hot-mix asphalt plant, consisting of the following:
- (1) One (1) aggregate rotary dryer, identified as Heater 1, approved for construction in 2012, with a maximum burner heat input capacity of 80 million British thermal units per hour (mmBtu/hr), firing natural gas, No. 2 fuel oil, and No. 4 fuel oil, equipped with one (1) jetpulse baghouse, identified as BH1, for particulate control, and exhausting to the outside atmosphere;
 - (2) One (1) batch mixer (pugmill), approved for construction in 2012, with a maximum throughput capacity of 180 tons of aggregate per hour, equipped with one (1) jetpulse baghouse, identified as BH1, for particulate control, and exhausting to the outside atmosphere;
 - (3) Material handling, screening, and conveying operations, constructed in 1976 and approved for modification in 2012,, uncontrolled and exhausting to the outside atmosphere, and consisting of the following:
 - (A) Aggregate storage piles consisting of limestone, sand, pre-sized recycled asphalt pavement (RAP), and gravel, as follows:
 - (i) Limestone storage piles, having a maximum height of thirteen (13) feet and a maximum storage capacity of fifteen hundred (1500) tons;
 - (ii) Sand storage piles, having a maximum height of thirteen (13) feet and a maximum storage capacity of one thousand (1000) tons;
 - (iii) Pre-sized RAP storage piles, having a maximum height of thirteen (13) feet and a maximum storage capacity of five hundred (500) tons.
 - (iv) Gravel storage piles, having a maximum height of thirteen (13) feet and a maximum storage capacity of four hundred fifteen (415) tons;
 - (B) Four (4) aggregate hoppers;
 - (C) One (1) screen deck;
 - (D) Three (3) belt conveyors;
 - (E) One (1) bucket elevator; and
 - (F) One (1) sixty (60) ton storage silo;

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities, this is considered an affected facility.

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

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

E.1.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

The Permittee shall perform the stack testing required under NSPS 40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner to document compliance with Condition E.1.2. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

SECTION E.2

NESHAP REQUIREMENTS

Emissions Unit Description: Gasoline Dispensing Facilities

- (h) One (1) gasoline fuel transfer and dispensing operation, handling less than or equal to 1,300 gallons per day, having a maximum storage capacity less than or equal to 10,500 gallons, and including one (1) five hundred (500) gallon gasoline storage tank, identified as Tank 4, constructed in 1990, uncontrolled and exhausting to the outside atmosphere.

Under 40 CFR 63, Subpart CCCCCC: National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, the gasoline fuel transfer and dispensing operation, including the five hundred (500) gallon gasoline storage tank, is considered an affected facility.

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

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

E.2.1 General Provisions Relating to NESHAP CCCCCC [326 IAC 20-1][40 CFR Part 63, Subpart A]

- (a) Pursuant to 40 CFR 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 40 CFR Part 63, Subpart CCCCCC in accordance with schedule in 40 CFR 63 Subpart CCCCCC.

- (b) Pursuant to 40 CFR 63.10, 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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

E.2.2 National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities [40 CFR Part 63, Subpart CCCCCC]

The Permittee which engages gasoline fuel transfer and dispensing operation with the following provisions of 40 CFR 63, Subpart CCCCCC (included as Attachment C of this permit), as specified as follows:

- (a) 40 CFR 63.11110;
(b) 40 CFR 63.11111(a), (b), (e), (f), (i);
(c) 40 CFR 63.11112(a), (d);
(d) 40 CFR 63.11113(b);
(e) 40 CFR 63.11115);
(f) 40 CFR 63.11116;
(g) 40 CFR 63.11125(d);

Permit Reviewer: Hannah L. Desrosiers

- (h) 40 CFR 63.11126(b);
- (i) 40 CFR 63.11130;
- (j) 40 CFR 63.11131;
- (k) 40 CFR 63.11132; and
- (l) Table 3

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

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

Source Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, Indiana 47712
FESOP Permit No.: F163-28873-00082

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: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, Indiana 47712
FESOP Permit No.: F163-28873-00082

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: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, Indiana 47712
FESOP Permit No.: F163-28873-00082
Facility: Hot-Mix Asphalt Plant - Dryer/Mixer
Parameter: Hot-Mix Asphalt Production Rate
Limit: The maximum annual asphalt production rate shall not exceed 200,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

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

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

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

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

FESOP Quarterly Report

Page 1 of 2

Source Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, Indiana 47712
FESOP Permit No.: F163-31099-00082

Facility: Dryer/Mixer

Parameter: Fuel/ SO₂

Emission Limits: Sulfur dioxide (SO₂) emissions shall not exceed 51.62 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12.

Fuel: When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, fuel and slag usage shall not exceed the following:

Fuel Type (Units)	Fuel Usage Limit (per 12 consecutive month period)
Natural Gas (MMCF)	701
No. 2 Distillate Fuel Oil (gallons)	1,376,571
No. 4 Distillate Fuel Oil (gallons)	1,376,571

FESOP Quarterly Report - Fuel / SO2 emissions

QUARTER: _____ YEAR: _____

Month	Fuel Types / Slag (units)	Column 1	Column 2	Column 1 + Column 2	Equation Results
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	Sulfur Dioxide (SO2) Emissions (tons per 12 months)
Month 1	Natural Gas (MMCF)				
	No. 2 Fuel Oil (gallons)				
	No. 4 Fuel Oil (gallons)				
Month 2	Natural Gas (MMCF)				
	No. 2 Fuel Oil (gallons)				
	No. 4 Fuel Oil (gallons)				
Month 3	Natural Gas (MMCF)				
	No. 2 Fuel Oil (gallons)				
	No. 4 Fuel Oil (gallons)				

No deviation occurred in this reporting period. Submitted by: _____ Date: _____

Deviation/s occurred in this reporting period. Title / Position: _____ Phone: _____

Deviation has been reported on: _____ Signature: _____

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

FESOP Quarterly Report

Source Name: Jerry David Enterprises, Inc.
 Source Address: 4301 Hogue Road, Evansville, Indiana 47712
 FESOP Permit No.: F163-28873-00082
 Facility: Ready-mix Concrete Plant - truck loading operation
 Parameter: Ready-mix Concrete Production Rate
 Limit: The maximum ready-mix concrete production rate shall not exceed 150,000 tons (equivalent to 75,000 cubic yards), per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

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

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

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

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

FESOP Quarterly Report

Source Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, Indiana 47712
FESOP Permit No.: F163-28873-00082
Facility: Ready-mix Concrete Plant - cement handling operations
Parameter: Cement Usage
Limit: Maximum cement usage shall not exceed 24,273 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

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

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

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

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

FESOP Quarterly Report

Source Name: Jerry David Enterprises, Inc.
 Source Address: 4301 Hogue Road, Evansville, Indiana 47712
 FESOP Permit No.: F163-28873-00082
 Facility: Ready-mix Concrete Plant - cement supplement handling operations
 Parameter: Cement Supplement Usage
 Limit: Maximum cement supplement usage shall not exceed 20,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

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

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

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

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

Source Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, Indiana 47712
FESOP Permit No.: F163-28873-00082

Months: _____ to _____ Year: _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C- General Reporting. 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: _____

Fugitive Particulate Matter Emissions Limitations Plan

326 IAC 6-5-4 Control Measures

- Sec. 4. (a)**
- (1) Paved roads and parking lots
 - (A) Cleaning by vacuum sweeping once a week or as needed
 - (B) Flushing as needed
 - (2) Unpaved roads and parking lots
 - (C) Spraying with water, the frequency of application shall be on an as needed basis
- (b) Open aggregate piles
- (2) (B) Application of a suitable and effective oil or other dust suppressant on an as needed basis.
- (c) Fugitive particulate matter resulting from outdoor conveying of aggregate material.
- (2) Applying water as needed to minimize visible emissions.
- (d) Fugitive particulate matter emissions resulting from the transferring of aggregate material
- (3) Application of water to minimize visible emissions.
- (e) Fugitive particulate matter emissions resulting from transportation of aggregate material by truck.
- N/A
- (f) Fugitive particulate matter resulting from the loading and unloading of material from storage facilities.
- N/A
- (g) Solid waste handling.
- (1) Hauling
 - (A) Wet suppression of the material being transported

- (h)** Fugitive particulate matter emissions resulting from material handling operations such as crushing, grinding, screening and mixing shall be controlled.

 - (2) Enclosure of emission source with venting of emissions to a fabric filter.

- (i)** Provisions of this section are applicable in preventing particulate matter from escaping through building openings from sources subject to 326 IAC 6-5.

 - N/A

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

**Jerry David Enterprises, Inc.
4301 Hogue Road
Evansville IN 47712**

Attachment B

Title 40: Protection of Environment

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

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

F163-28873-00082

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

§ 60.90 Applicability and designation of affected facility.

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

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

§ 60.91 Definitions.

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

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

[51 FR 12325, Apr. 10, 1986]

§ 60.92 Standard for particulate matter.

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

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

§ 60.93 Test methods and procedures.

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

[54 FR 6667, Feb. 14, 1989]

Reference

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

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

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

**Jerry David Enterprises, Inc.
4301 Hogue Road
Evansville IN 47712**

Attachment C

Title 40: Protection of Environment

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

**Subpart CCCCCC - NESHAPs for Source Category:
Gasoline Dispensing Facilities**

F163-32093-00082

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES
(CONTINUED)

Subpart CCCCC—National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

Source: 73 FR 1945, Jan. 10, 2008, unless otherwise noted.

What This Subpart Covers

§ 63.11110 What is the purpose of this subpart?

This subpart establishes national emission limitations and management practices for hazardous air pollutants (HAP) emitted from the loading of gasoline storage tanks at gasoline dispensing facilities (GDF). This subpart also establishes requirements to demonstrate compliance with the emission limitations and management practices.

§ 63.11111 Am I subject to the requirements in this subpart?

(a) The affected source to which this subpart applies is each GDF that is located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank.

(b) If your GDF has a monthly throughput of less than 10,000 gallons of gasoline, you must comply with the requirements in §63.11116.

(c) If your GDF has a monthly throughput of 10,000 gallons of gasoline or more, you must comply with the requirements in §63.11117.

(d) If your GDF has a monthly throughput of 100,000 gallons of gasoline or more, you must comply with the requirements in §63.11118.

(e) An affected source shall, upon request by the Administrator, demonstrate that their monthly throughput is less than the 10,000-gallon or the 100,000-gallon threshold level, as applicable. For new or reconstructed affected sources, as specified in §63.11112(b) and (c), recordkeeping to document monthly throughput must begin upon startup of the affected source. For existing sources, as specified in §63.11112(d), recordkeeping to document monthly throughput must begin on January 10, 2008. For existing sources that are subject to this subpart only because they load gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, recordkeeping to document monthly throughput must begin on January 24, 2011. Records required under this paragraph shall be kept for a period of 5 years.

(f) If you are an owner or operator of affected sources, as defined in paragraph (a) of this section, you are not required to obtain a permit under 40 CFR part 70 or 40 CFR part 71 as a result of being subject to this subpart. However, you must still apply for and obtain a permit under 40 CFR part 70 or 40 CFR part 71 if you meet one or more of the applicability criteria found in 40 CFR 70.3(a) and (b) or 40 CFR 71.3(a) and (b).

(g) The loading of aviation gasoline into storage tanks at airports, and the subsequent transfer of aviation gasoline within the airport, is not subject to this subpart.

(h) Monthly throughput is the total volume of gasoline loaded into, or dispensed from, all the gasoline storage tanks located at a single affected GDF. If an area source has two or more GDF at separate locations within the area source, each GDF is treated as a separate affected source.

(i) If your affected source's throughput ever exceeds an applicable throughput threshold, the affected source will remain subject to the requirements for sources above the threshold, even if the affected source throughput later falls below the applicable throughput threshold.

(j) The dispensing of gasoline from a fixed gasoline storage tank at a GDF into a portable gasoline tank for the on-site delivery and subsequent dispensing of the gasoline into the fuel tank of a motor vehicle or other gasoline-fueled engine or equipment used within the area source is only subject to §63.11116 of this subpart.

(k) For any affected source subject to the provisions of this subpart and another Federal rule, you may elect to comply only with the more stringent provisions of the applicable subparts. You must consider all provisions of the rules, including monitoring, recordkeeping, and reporting. You must identify the affected source and provisions with which you will comply in your Notification of Compliance Status required under §63.11124. You also must demonstrate in your Notification of Compliance Status that each provision with which you will comply is at least as stringent as the otherwise applicable requirements in this subpart. You are responsible for making accurate determinations concerning the more stringent provisions, and noncompliance with this rule is not excused if it is later determined that your determination was in error, and, as a result, you are violating this subpart. Compliance with this rule is your responsibility and the Notification of Compliance Status does not alter or affect that responsibility.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4181, Jan. 24, 2011]

§ 63.11112 What parts of my affected source does this subpart cover?

(a) The emission sources to which this subpart applies are gasoline storage tanks and associated equipment components in vapor or liquid gasoline service at new, reconstructed, or existing GDF that meet the criteria specified in §63.11111. Pressure/Vacuum vents on gasoline storage tanks and the equipment necessary to unload product from cargo tanks into the storage tanks at GDF are covered emission sources. The equipment used for the refueling of motor vehicles is not covered by this subpart.

(b) An affected source is a new affected source if you commenced construction on the affected source after November 9, 2006, and you meet the applicability criteria in §63.11111 at the time you commenced operation.

(c) An affected source is reconstructed if you meet the criteria for reconstruction as defined in §63.2.

(d) An affected source is an existing affected source if it is not new or reconstructed.

§ 63.11113 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to paragraphs (a)(1) and (2) of this section, except as specified in paragraph (d) of this section.

(1) If you start up your affected source before January 10, 2008, you must comply with the standards in this subpart no later than January 10, 2008.

(2) If you start up your affected source after January 10, 2008, you must comply with the standards in this subpart upon startup of your affected source.

(b) If you have an existing affected source, you must comply with the standards in this subpart no later than January 10, 2011.

(c) If you have an existing affected source that becomes subject to the control requirements in this subpart because of an increase in the monthly throughput, as specified in §63.11111(c) or §63.11111(d), you must comply with the standards in this subpart no later than 3 years after the affected source becomes subject to the control requirements in this subpart.

(d) If you have a new or reconstructed affected source and you are complying with Table 1 to this subpart, you must comply according to paragraphs (d)(1) and (2) of this section.

(1) If you start up your affected source from November 9, 2006 to September 23, 2008, you must comply no later than September 23, 2008.

(2) If you start up your affected source after September 23, 2008, you must comply upon startup of your affected source.

(e) The initial compliance demonstration test required under §63.11120(a)(1) and (2) must be conducted as specified in paragraphs (e)(1) and (2) of this section.

(1) If you have a new or reconstructed affected source, you must conduct the initial compliance test upon installation of the complete vapor balance system.

(2) If you have an existing affected source, you must conduct the initial compliance test as specified in paragraphs (e)(2)(i) or (e)(2)(ii) of this section.

(i) For vapor balance systems installed on or before December 15, 2009, you must test no later than 180 days after the applicable compliance date specified in paragraphs (b) or (c) of this section.

(ii) For vapor balance systems installed after December 15, 2009, you must test upon installation of the complete vapor balance system.

(f) If your GDF is subject to the control requirements in this subpart only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must comply with the standards in this subpart as specified in paragraphs (f)(1) or (f)(2) of this section.

(1) If your GDF is an existing facility, you must comply by January 24, 2014.

(2) If your GDF is a new or reconstructed facility, you must comply by the dates specified in paragraphs (f)(2)(i) and (ii) of this section.

(i) If you start up your GDF after December 15, 2009, but before January 24, 2011, you must comply no later than January 24, 2011.

(ii) If you start up your GDF after January 24, 2011, you must comply upon startup of your GDF.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 35944, June 25, 2008; 76 FR 4181, Jan. 24, 2011]

Emission Limitations and Management Practices

§ 63.11115 What are my general duties to minimize emissions?

Each owner or operator of an affected source under this subpart must comply with the requirements of paragraphs (a) and (b) of this section.

(a) You must, at all times, 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. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which 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 must keep applicable records and submit reports as specified in §63.11125(d) and §63.11126(b).

[76 FR 4182, Jan. 24, 2011]

§ 63.11116 Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline.

(a) You must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

(1) Minimize gasoline spills;

(2) Clean up spills as expeditiously as practicable;

(3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;

(4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

(b) You are not required to submit notifications or reports as specified in §63.11125, §63.11126, or subpart A of this part, but you must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.

(c) You must comply with the requirements of this subpart by the applicable dates specified in §63.11113.

(d) Portable gasoline containers that meet the requirements of 40 CFR part 59, subpart F, are considered acceptable for compliance with paragraph (a)(3) of this section.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4182, Jan. 24, 2011]

§ 63.11117 Requirements for facilities with monthly throughput of 10,000 gallons of gasoline or more.

(a) You must comply with the requirements in section §63.11116(a).

(b) Except as specified in paragraph (c) of this section, you must only load gasoline into storage tanks at your facility by utilizing submerged filling, as defined in §63.11132, and as specified in paragraphs (b)(1), (b)(2), or (b)(3) of this section. The applicable distances in paragraphs (b)(1) and (2) shall be measured from the point in the opening of the submerged fill pipe that is the greatest distance from the bottom of the storage tank.

(1) Submerged fill pipes installed on or before November 9, 2006, must be no more than 12 inches from the bottom of the tank.

(2) Submerged fill pipes installed after November 9, 2006, must be no more than 6 inches from the bottom of the tank.

(3) Submerged fill pipes not meeting the specifications of paragraphs (b)(1) or (b)(2) of this section are allowed if the owner or operator can demonstrate that the liquid level in the tank is always above the entire opening of the fill pipe. Documentation providing such demonstration must be made available for inspection by the Administrator's delegated representative during the course of a site visit.

(c) Gasoline storage tanks with a capacity of less than 250 gallons are not required to comply with the submerged fill requirements in paragraph (b) of this section, but must comply only with all of the requirements in §63.11116.

(d) You must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.

(e) You must submit the applicable notifications as required under §63.11124(a).

(f) You must comply with the requirements of this subpart by the applicable dates contained in §63.11113.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 12276, Mar. 7, 2008; 76 FR 4182, Jan. 24, 2011]

§ 63.11118 Requirements for facilities with monthly throughput of 100,000 gallons of gasoline or more.

(a) You must comply with the requirements in §§63.11116(a) and 63.11117(b).

(b) Except as provided in paragraph (c) of this section, you must meet the requirements in either paragraph (b)(1) or paragraph (b)(2) of this section.

(1) Each management practice in Table 1 to this subpart that applies to your GDF.

(2) If, prior to January 10, 2008, you satisfy the requirements in both paragraphs (b)(2)(i) and (ii) of this section, you will be deemed in compliance with this subsection.

(i) You operate a vapor balance system at your GDF that meets the requirements of either paragraph (b)(2)(i)(A) or paragraph (b)(2)(i)(B) of this section.

(A) Achieves emissions reduction of at least 90 percent.

(B) Operates using management practices at least as stringent as those in Table 1 to this subpart.

(ii) Your gasoline dispensing facility is in compliance with an enforceable State, local, or tribal rule or permit that contains requirements of either paragraph (b)(2)(i)(A) or paragraph (b)(2)(i)(B) of this section.

(c) The emission sources listed in paragraphs (c)(1) through (3) of this section are not required to comply with the control requirements in paragraph (b) of this section, but must comply with the requirements in §63.11117.

(1) Gasoline storage tanks with a capacity of less than 250 gallons that are constructed after January 10, 2008.

(2) Gasoline storage tanks with a capacity of less than 2,000 gallons that were constructed before January 10, 2008.

(3) Gasoline storage tanks equipped with floating roofs, or the equivalent.

(d) Cargo tanks unloading at GDF must comply with the management practices in Table 2 to this subpart.

(e) You must comply with the applicable testing requirements contained in §63.11120.

(f) You must submit the applicable notifications as required under §63.11124.

(g) You must keep records and submit reports as specified in §§63.11125 and 63.11126.

(h) You must comply with the requirements of this subpart by the applicable dates contained in §63.11113.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 12276, Mar. 7, 2008]

Testing and Monitoring Requirements

§ 63.11120 What testing and monitoring requirements must I meet?

(a) Each owner or operator, at the time of installation, as specified in §63.11113(e), of a vapor balance system required under §63.11118(b)(1), and every 3 years thereafter, must comply with the requirements in paragraphs (a)(1) and (2) of this section.

(1) You must demonstrate compliance with the leak rate and cracking pressure requirements, specified in item 1(g) of Table 1 to this subpart, for pressure-vacuum vent valves installed on your gasoline storage tanks using the test methods identified in paragraph (a)(1)(i) or paragraph (a)(1)(ii) of this section.

(i) California Air Resources Board Vapor Recovery Test Procedure TP-201.1E,—Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves, adopted October 8, 2003 (incorporated by reference, see §63.14).

(ii) Use alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f).

(2) You must demonstrate compliance with the static pressure performance requirement specified in item 1(h) of Table 1 to this subpart for your vapor balance system by conducting a static pressure test on your gasoline storage tanks using the test methods identified in paragraphs (a)(2)(i), (a)(2)(ii), or (a)(2)(iii) of this section.

(i) California Air Resources Board Vapor Recovery Test Procedure TP-201.3,—Determination of 2-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities, adopted April 12, 1996, and amended March 17, 1999 (incorporated by reference, see §63.14).

(ii) Use alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f).

(iii) Bay Area Air Quality Management District Source Test Procedure ST-30—Static Pressure Integrity Test—Underground Storage Tanks, adopted November 30, 1983, and amended December 21, 1994 (incorporated by reference, see §63.14).

(b) Each owner or operator choosing, under the provisions of §63.6(g), to use a vapor balance system other than that described in Table 1 to this subpart must demonstrate to the Administrator or delegated authority under paragraph §63.11131(a) of this subpart, the equivalency of their vapor balance system to that described in Table 1 to this subpart using the procedures specified in paragraphs (b)(1) through (3) of this section.

(1) You must demonstrate initial compliance by conducting an initial performance test on the vapor balance system to demonstrate that the vapor balance system achieves 95 percent reduction using the California Air Resources Board Vapor Recovery Test Procedure TP-201.1,—Volumetric Efficiency for Phase I Vapor Recovery Systems, adopted April 12, 1996, and amended February 1, 2001, and October 8, 2003, (incorporated by reference, see §63.14).

(2) You must, during the initial performance test required under paragraph (b)(1) of this section, determine and document alternative acceptable values for the leak rate and cracking pressure requirements specified in item 1(g) of Table 1 to this subpart and for the static pressure performance requirement in item 1(h) of Table 1 to this subpart.

(3) You must comply with the testing requirements specified in paragraph (a) of this section.

(c) Conduct of performance tests. Performance tests conducted for this subpart shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (*i.e.*, performance based on normal operating conditions) of the affected source. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(d) Owners and operators of gasoline cargo tanks subject to the provisions of Table 2 to this subpart must conduct annual certification testing according to the vapor tightness testing requirements found in §63.11092(f).

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4182, Jan. 24, 2011]

Notifications, Records, and Reports

§ 63.1124 What notifications must I submit and when?

(a) Each owner or operator subject to the control requirements in §63.11117 must comply with paragraphs (a)(1) through (3) of this section.

(1) You must submit an Initial Notification that you are subject to this subpart by May 9, 2008, or at the time you become subject to the control requirements in §63.11117, unless you meet the requirements in paragraph (a)(3) of this section. If your affected source is subject to the control requirements in §63.11117 only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must submit the Initial Notification by May 24, 2011. The Initial Notification must contain the information specified in paragraphs (a)(1)(i) through (iii) of this section. The notification must be submitted to the applicable EPA Regional Office and delegated State authority as specified in §63.13.

(i) The name and address of the owner and the operator.

(ii) The address (*i.e.*, physical location) of the GDF.

(iii) A statement that the notification is being submitted in response to this subpart and identifying the requirements in paragraphs (a) through (c) of §63.11117 that apply to you.

(2) You must submit a Notification of Compliance Status to the applicable EPA Regional Office and the delegated State authority, as specified in §63.13, within 60 days of the applicable compliance date specified in §63.11113, unless you meet the requirements in paragraph (a)(3) of this section. The Notification of Compliance Status must be signed by a responsible official who must certify its accuracy, must indicate whether the source has complied with the requirements of this subpart, and must indicate whether the facilities' monthly throughput is calculated based on the volume of gasoline loaded into all storage tanks or on the volume of gasoline dispensed from all storage tanks. If your facility is in compliance with the requirements of this subpart at the time the Initial Notification required under paragraph (a)(1) of this section is due, the Notification of Compliance Status may be submitted in lieu of the Initial Notification provided it contains the information required under paragraph (a)(1) of this section.

(3) If, prior to January 10, 2008, you are operating in compliance with an enforceable State, local, or tribal rule or permit that requires submerged fill as specified in §63.11117(b), you are not required to submit an Initial Notification or a Notification of Compliance Status under paragraph (a)(1) or paragraph (a)(2) of this section.

(b) Each owner or operator subject to the control requirements in §63.11118 must comply with paragraphs (b)(1) through (5) of this section.

(1) You must submit an Initial Notification that you are subject to this subpart by May 9, 2008, or at the time you become subject to the control requirements in §63.11118. If your affected source is subject to the control requirements in §63.11118 only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must submit the Initial Notification by

May 24, 2011. The Initial Notification must contain the information specified in paragraphs (b)(1)(i) through (iii) of this section. The notification must be submitted to the applicable EPA Regional Office and delegated State authority as specified in §63.13.

(i) The name and address of the owner and the operator.

(ii) The address (i.e., physical location) of the GDF.

(iii) A statement that the notification is being submitted in response to this subpart and identifying the requirements in paragraphs (a) through (c) of §63.11118 that apply to you.

(2) You must submit a Notification of Compliance Status to the applicable EPA Regional Office and the delegated State authority, as specified in §63.13, in accordance with the schedule specified in §63.9(h). The Notification of Compliance Status must be signed by a responsible official who must certify its accuracy, must indicate whether the source has complied with the requirements of this subpart, and must indicate whether the facility's throughput is determined based on the volume of gasoline loaded into all storage tanks or on the volume of gasoline dispensed from all storage tanks. If your facility is in compliance with the requirements of this subpart at the time the Initial Notification required under paragraph (b)(1) of this section is due, the Notification of Compliance Status may be submitted in lieu of the Initial Notification provided it contains the information required under paragraph (b)(1) of this section.

(3) If, prior to January 10, 2008, you satisfy the requirements in both paragraphs (b)(3)(i) and (ii) of this section, you are not required to submit an Initial Notification or a Notification of Compliance Status under paragraph (b)(1) or paragraph (b)(2) of this subsection.

(i) You operate a vapor balance system at your gasoline dispensing facility that meets the requirements of either paragraphs (b)(3)(i)(A) or (b)(3)(i)(B) of this section.

(A) Achieves emissions reduction of at least 90 percent.

(B) Operates using management practices at least as stringent as those in Table 1 to this subpart.

(ii) Your gasoline dispensing facility is in compliance with an enforceable State, local, or tribal rule or permit that contains requirements of either paragraphs (b)(3)(i)(A) or (b)(3)(i)(B) of this section.

(4) You must submit a Notification of Performance Test, as specified in §63.9(e), prior to initiating testing required by §63.11120(a) and (b).

(5) You must submit additional notifications specified in §63.9, as applicable.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 12276, Mar. 7, 2008; 76 FR 4182, Jan. 24, 2011]

§ 63.11125 What are my recordkeeping requirements?

(a) Each owner or operator subject to the management practices in §63.11118 must keep records of all tests performed under §63.11120(a) and (b).

(b) Records required under paragraph (a) of this section shall be kept for a period of 5 years and shall be made available for inspection by the Administrator's delegated representatives during the course of a site visit.

(c) Each owner or operator of a gasoline cargo tank subject to the management practices in Table 2 to this subpart must keep records documenting vapor tightness testing for a period of 5 years. Documentation must include each of the items specified in §63.11094(b)(2)(i) through (viii). Records of vapor tightness testing must be retained as specified in either paragraph (c)(1) or paragraph (c)(2) of this section.

(1) The owner or operator must keep all vapor tightness testing records with the cargo tank.

(2) As an alternative to keeping all records with the cargo tank, the owner or operator may comply with the requirements of paragraphs (c)(2)(i) and (ii) of this section.

(i) The owner or operator may keep records of only the most recent vapor tightness test with the cargo tank, and keep records for the previous 4 years at their office or another central location.

(ii) Vapor tightness testing records that are kept at a location other than with the cargo tank must be instantly available (e.g., via e-mail or facsimile) to the Administrator's delegated representative during the course of a site visit or within a mutually agreeable time frame. Such records must be an exact duplicate image of the original paper copy record with certifying signatures.

(d) Each owner or operator of an affected source under this subpart shall keep records as specified in paragraphs (d)(1) and (2) of this section.

(1) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(2) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.11115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4183, Jan. 24, 2011]

§ 63.11126 What are my reporting requirements?

(a) Each owner or operator subject to the management practices in §63.11118 shall report to the Administrator the results of all volumetric efficiency tests required under §63.11120(b). Reports submitted under this paragraph must be submitted within 180 days of the completion of the performance testing.

(b) Each owner or operator of an affected source under this subpart shall report, by March 15 of each year, the number, duration, and a brief description of each type of malfunction which occurred during the previous calendar year and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.11115(a), including actions taken to correct a malfunction. No report is necessary for a calendar year in which no malfunctions occurred.

[76 FR 4183, Jan. 24, 2011]

Other Requirements and Information

§ 63.11130 What parts of the General Provisions apply to me?

Table 3 to this subpart shows which parts of the General Provisions apply to you.

§ 63.11131 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as the applicable State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or tribal agency.

(c) The authorities that cannot be delegated to State, local, or tribal agencies are as specified in paragraphs (c)(1) through (3) of this section.

(1) Approval of alternatives to the requirements in §§63.11116 through 63.11118 and 63.11120.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

§ 63.11132 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act (CAA), or in subparts A and BBBB of this part. For purposes of this subpart, definitions in this section supersede definitions in other parts or subparts.

Dual-point vapor balance system means a type of vapor balance system in which the storage tank is equipped with an entry port for a gasoline fill pipe and a separate exit port for a vapor connection.

Gasoline means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater, which is used as a fuel for internal combustion engines.

Gasoline cargo tank means a delivery tank truck or railcar which is loading or unloading gasoline, or which has loaded or unloaded gasoline on the immediately previous load.

Gasoline dispensing facility (GDF) means any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine, including a nonroad vehicle or nonroad engine used solely for competition. These facilities include, but are not limited to, facilities that dispense gasoline into on- and off-road, street, or highway motor vehicles, lawn equipment, boats, test engines, landscaping equipment, generators, pumps, and other gasoline-fueled engines and equipment.

Monthly throughput means the total volume of gasoline that is loaded into, or dispensed from, all gasoline storage tanks at each GDF during a month. Monthly throughput is calculated by summing the volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the current day, plus the total volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the previous 364 days, and then dividing that sum by 12.

Motor vehicle means any self-propelled vehicle designed for transporting persons or property on a street or highway.

Nonroad engine means an internal combustion engine (including the fuel system) that is not used in a motor vehicle or a vehicle used solely for competition, or that is not subject to standards promulgated under section 7411 of this title or section 7521 of this title.

Nonroad vehicle means a vehicle that is powered by a nonroad engine, and that is not a motor vehicle or a vehicle used solely for competition.

Submerged filling means, for the purposes of this subpart, the filling of a gasoline storage tank through a submerged fill pipe whose discharge is no more than the applicable distance specified in §63.11117(b) from the bottom of the tank. Bottom filling of gasoline storage tanks is included in this definition.

Vapor balance system means a combination of pipes and hoses that create a closed system between the vapor spaces of an unloading gasoline cargo tank and a receiving storage tank such that vapors displaced from the storage tank are transferred to the gasoline cargo tank being unloaded.

Vapor-tight means equipment that allows no loss of vapors. Compliance with vapor-tight requirements can be determined by checking to ensure that the concentration at a potential leak source is not equal to or greater than 100 percent of the Lower Explosive Limit when measured with a combustible gas detector, calibrated with propane, at a distance of 1 inch from the source.

Vapor-tight gasoline cargo tank means a gasoline cargo tank which has demonstrated within the 12 preceding months that it meets the annual certification test requirements in §63.11092(f) of this part.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4183, Jan. 24, 2011]

Table 1 to Subpart CCCCC of Part 63—Applicability Criteria and Management Practices for Gasoline Dispensing Facilities With Monthly Throughput of 100,000 Gallons of Gasoline or More¹

If you own or operate	Then you must
1. A new, reconstructed, or existing GDF subject to §63.11118	Install and operate a vapor balance system on your gasoline storage tanks that meets the design criteria in paragraphs (a) through (h).

If you own or operate	Then you must
	(a) All vapor connections and lines on the storage tank shall be equipped with closures that seal upon disconnect.
	(b) The vapor line from the gasoline storage tank to the gasoline cargo tank shall be vapor-tight, as defined in §63.11132.
	(c) The vapor balance system shall be designed such that the pressure in the tank truck does not exceed 18 inches water pressure or 5.9 inches water vacuum during product transfer.
	(d) The vapor recovery and product adaptors, and the method of connection with the delivery elbow, shall be designed so as to prevent the over-tightening or loosening of fittings during normal delivery operations.
	(e) If a gauge well separate from the fill tube is used, it shall be provided with a submerged drop tube that extends the same distance from the bottom of the storage tank as specified in §63.11117(b).
	(f) Liquid fill connections for all systems shall be equipped with vapor-tight caps.
	(g) Pressure/vacuum (PV) vent valves shall be installed on the storage tank vent pipes. The pressure specifications for PV vent valves shall be: a positive pressure setting of 2.5 to 6.0 inches of water and a negative pressure setting of 6.0 to 10.0 inches of water. The total leak rate of all PV vent valves at an affected facility, including connections, shall not exceed 0.17 cubic foot per hour at a pressure of 2.0 inches of water and 0.63 cubic foot per hour at a vacuum of 4 inches of water.
	(h) The vapor balance system shall be capable of meeting the static pressure performance requirement of the following equation:
	$P_f = 2e^{-500.887/v}$
	Where:
	P _f = Minimum allowable final pressure, inches of water.
	v = Total ullage affected by the test, gallons.
	e = Dimensionless constant equal to approximately 2.718.
	2 = The initial pressure, inches water.
2. A new or reconstructed GDF,	Equip your gasoline storage tanks with a dual-point vapor

If you own or operate	Then you must
or any storage tank(s) constructed after November 9, 2006, at an existing affected facility subject to §63.11118	balance system, as defined in §63.11132, and comply with the requirements of item 1 in this Table.

¹The management practices specified in this Table are not applicable if you are complying with the requirements in §63.11118(b)(2), except that if you are complying with the requirements in §63.11118(b)(2)(i)(B), you must operate using management practices at least as stringent as those listed in this Table.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 35944, June 25, 2008; 76 FR 4184, Jan. 24, 2011]

Table 2 to Subpart CCCCC of Part 63—Applicability Criteria and Management Practices for Gasoline Cargo Tanks Unloading at Gasoline Dispensing Facilities With Monthly Throughput of 100,000 Gallons of Gasoline or More

If you own or operate	Then you must
A gasoline cargo tank	Not unload gasoline into a storage tank at a GDF subject to the control requirements in this subpart unless the following conditions are met:
	(i) All hoses in the vapor balance system are properly connected,
	(ii) The adapters or couplers that attach to the vapor line on the storage tank have closures that seal upon disconnect,
	(iii) All vapor return hoses, couplers, and adapters used in the gasoline delivery are vapor-tight,
	(iv) All tank truck vapor return equipment is compatible in size and forms a vapor-tight connection with the vapor balance equipment on the GDF storage tank, and
	(v) All hatches on the tank truck are closed and securely fastened.
	(vi) The filling of storage tanks at GDF shall be limited to unloading from vapor-tight gasoline cargo tanks. Documentation that the cargo tank has met the specifications of EPA Method 27 shall be carried with the cargo tank, as specified in §63.11125(c).

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4184, Jan. 24, 2011]

Table 3 to Subpart CCCCC of Part 63—Applicability of General Provisions

Citation	Subject	Brief description	Applies to subpart CCCCC
§63.1	Applicability	Initial applicability determination; applicability	Yes, specific requirements

Citation	Subject	Brief description	Applies to subpart CCCCC
		after standard established; permit requirements; extensions, notifications	given in §63.11111.
§63.1(c)(2)	Title V Permit	Requirements for obtaining a title V permit from the applicable permitting authority	Yes, §63.11111(f) of subpart CCCCC exempts identified area sources from the obligation to obtain title V operating permits.
§63.2	Definitions	Definitions for part 63 standards	Yes, additional definitions in §63.11132.
§63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§63.4	Prohibited Activities and Circumvention	Prohibited activities; Circumvention, severability	Yes.
§63.5	Construction/Reconstruction	Applicability; applications; approvals	Yes, except that these notifications are not required for facilities subject to §63.11116
§63.6(a)	Compliance with Standards/Operation & Maintenance—Applicability	General Provisions apply unless compliance extension; General Provisions apply to area sources that become major	Yes.
§63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed Sources	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for CAA section 112(f)	Yes.

Citation	Subject	Brief description	Applies to subpart CCCCC
§63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal	Yes.
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source	No.
§63.6(c)(1)–(2)	Compliance Dates for Existing Sources	Comply according to date in this subpart, which must be no later than 3 years after effective date; for CAA section 112(f) standards, comply within 90 days of effective date unless compliance extension	No, §63.11113 specifies the compliance dates.
§63.6(c)(3)–(4)	[Reserved]		
§63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major	Area sources That become major must comply with major source standards by date indicated in this subpart or by equivalent time period (e.g., 3 years)	No.
§63.6(d)	[Reserved]		
63.6(e)(1)(i)	General duty to minimize emissions	Operate to minimize emissions at all times; information Administrator will use to determine if operation and maintenance requirements were met.	No. <i>See</i> §63.11115 for general duty requirement.
63.6(e)(1)(ii)	Requirement to correct malfunctions ASAP	Owner or operator must correct malfunctions as soon as possible.	No.
§63.6(e)(2)	[Reserved]		
§63.6(e)(3)	Startup, Shutdown, and Malfunction (SSM) Plan	Requirement for SSM plan; content of SSM plan; actions	No.

Citation	Subject	Brief description	Applies to subpart CCCCC
		during SSM	
§63.6(f)(1)	Compliance Except During SSM	You must comply with emission standards at all times except during SSM	No.
§63.6(f)(2)–(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection	Yes.
§63.6(g)(1)–(3)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§63.6(h)(1)	Compliance with Opacity/Visible Emission (VE) Standards	You must comply with opacity/VE standards at all times except during SSM	No.
§63.6(h)(2)(i)	Determining Compliance with Opacity/VE Standards	If standard does not State test method, use EPA Method 9 for opacity in appendix A of part 60 of this chapter and EPA Method 22 for VE in appendix A of part 60 of this chapter	No.
§63.6(h)(2)(ii)	[Reserved]		
§63.6(h)(2)(iii)	Using Previous Tests To Demonstrate Compliance With Opacity/VE Standards	Criteria for when previous opacity/VE testing can be used to show compliance with this subpart	No.
§63.6(h)(3)	[Reserved]		
§63.6(h)(4)	Notification of Opacity/VE Observation Date	Must notify Administrator of anticipated date of observation	No.
§63.6(h)(5)(i), (iii)–(v)	Conducting Opacity/VE Observations	Dates and schedule for conducting opacity/VE observations	No.
§63.6(h)(5)(ii)	Opacity Test Duration and Averaging Times	Must have at least 3 hours of observation with 30 6-minute averages	No.
§63.6(h)(6)	Records of Conditions During Opacity/VE Observations	Must keep records available and allow Administrator to inspect	No.

Citation	Subject	Brief description	Applies to subpart CCCCC
§63.6(h)(7)(i)	Report Continuous Opacity Monitoring System (COMS) Monitoring Data From Performance Test	Must submit COMS data with other performance test data	No.
§63.6(h)(7)(ii)	Using COMS Instead of EPA Method 9	Can submit COMS data instead of EPA Method 9 results even if rule requires EPA Method 9 in appendix A of part 60 of this chapter, but must notify Administrator before performance test	No.
§63.6(h)(7)(iii)	Averaging Time for COMS During Performance Test	To determine compliance, must reduce COMS data to 6-minute averages	No.
§63.6(h)(7)(iv)	COMS Requirements	Owner/operator must demonstrate that COMS performance evaluations are conducted according to §63.8(e); COMS are properly maintained and operated according to §63.8(c) and data quality as §63.8(d)	No.
§63.6(h)(7)(v)	Determining Compliance with Opacity/VE Standards	COMS is probable but not conclusive evidence of compliance with opacity standard, even if EPA Method 9 observation shows otherwise. Requirements for COMS to be probable evidence-proper maintenance, meeting Performance Specification 1 in appendix B of part 60 of this chapter, and data have not been altered	No.
§63.6(h)(8)	Determining Compliance with Opacity/VE Standards	Administrator will use all COMS, EPA Method 9 (in appendix A of part 60 of this chapter), and EPA Method 22 (in appendix A of part 60 of this	No.

Citation	Subject	Brief description	Applies to subpart CCCCC
		chapter) results, as well as information about operation and maintenance to determine compliance	
§63.6(h)(9)	Adjusted Opacity Standard	Procedures for Administrator to adjust an opacity standard	No.
§63.6(i)(1)–(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	Yes.
§63.6(j)	Presidential Compliance Exemption	President may exempt any source from requirement to comply with this subpart	Yes.
§63.7(a)(2)	Performance Test Dates	Dates for conducting initial performance testing; must conduct 180 days after compliance date	Yes.
§63.7(a)(3)	CAA Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time	Yes.
§63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes.
§63.7(b)(2)	Notification of Re-scheduling	If have to reschedule performance test, must notify Administrator of rescheduled date as soon as practicable and without delay	Yes.
§63.7(c)	Quality Assurance (QA)/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing	Yes.
§63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
63.7(e)(1)	Conditions for Conducting	Performance test must be	No,

Citation	Subject	Brief description	Applies to subpart CCCCC
	Performance Tests	conducted under representative conditions	§63.11120(c) specifies conditions for conducting performance tests.
§63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to this subpart and EPA test methods unless Administrator approves alternative	Yes.
§63.7(e)(3)	Test Run Duration	Must have three test runs of at least 1 hour each; compliance is based on arithmetic mean of three runs; conditions when data from an additional test run can be used	Yes.
§63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an intermediate or major change, or alternative to a test method	Yes.
§63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; must submit performance test data 60 days after end of test with the Notification of Compliance Status; keep data for 5 years	Yes.
§63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test	Yes.
§63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes.
§63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of 40 CFR part 60 apply	Yes.
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring of Flares	Monitoring requirements for flares in §63.11 apply	Yes.

Citation	Subject	Brief description	Applies to subpart CCCCC
§63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	Yes.
§63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems; must install on each affected source or after combined with another affected source before it is released to the atmosphere provided the monitoring is sufficient to demonstrate compliance with the standard; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup	No.
§63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with good air pollution control practices	No.
§63.8(c)(1)(i)–(iii)	Operation and Maintenance of Continuous Monitoring Systems (CMS)	Must maintain and operate each CMS as specified in §63.6(e)(1); must keep parts for routine repairs readily available; must develop a written SSM plan for CMS, as specified in §63.6(e)(3)	No.
§63.8(c)(2)–(8)	CMS Requirements	Must install to get representative emission or parameter measurements; must verify operational status before or at performance test	No.
§63.8(d)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc.; must keep quality control plan on record for 5 years; keep old versions for 5 years after revisions	No.

Citation	Subject	Brief description	Applies to subpart CCCCC
§63.8(e)	CMS Performance Evaluation	Notification, performance evaluation test plan, reports	No.
§63.8(f)(1)–(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring	No.
§63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for continuous emissions monitoring system (CEMS)	No.
§63.8(g)	Data Reduction	COMS 6-minute averages calculated over at least 36 evenly spaced data points; CEMS 1 hour averages computed over at least 4 equally spaced data points; data that cannot be used in average	No.
§63.9(a)	Notification Requirements	Applicability and State delegation	Yes.
§63.9(b)(1)–(2), (4)–(5)	Initial Notifications	Submit notification within 120 days after effective date; notification of intent to construct/reconstruct, notification of commencement of construction/reconstruction, notification of startup; contents of each	Yes.
§63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed best available control technology or lowest achievable emission rate	Yes.
§63.9(d)	Notification of Special Compliance Requirements for New Sources	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date	Yes.
§63.9(e)	Notification of Performance Test	Notify Administrator 60 days prior	Yes.

Citation	Subject	Brief description	Applies to subpart CCCCC
§63.9(f)	Notification of VE/Opacity Test	Notify Administrator 30 days prior	No.
§63.9(g)	Additional Notifications when Using CMS	Notification of performance evaluation; notification about use of COMS data; notification that exceeded criterion for relative accuracy alternative	Yes, however, there are no opacity standards.
§63.9(h)(1)–(6)	Notification of Compliance Status	Contents due 60 days after end of performance test or other compliance demonstration, except for opacity/VE, which are due 30 days after; when to submit to Federal vs. State authority	Yes, however, there are no opacity standards.
§63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change when notifications must be submitted	Yes.
§63.9(j)	Change in Previous Information	Must submit within 15 days after the change	Yes.
§63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance extension; when to submit to Federal vs. State authority; procedures for owners of more than one source	Yes.
§63.10(b)(1)	Recordkeeping/Reporting	General requirements; keep all records readily available; keep for 5 years	Yes.
§63.10(b)(2)(i)	Records related to SSM	Recordkeeping of occurrence and duration of startups and shutdowns	No.
§63.10(b)(2)(ii)	Records related to SSM	Recordkeeping of malfunctions	No. <i>See</i> §63.11125(d) for recordkeeping of (1) occurrence and duration and (2) actions

Citation	Subject	Brief description	Applies to subpart CCCCC
			taken during malfunction.
§63.10(b)(2)(iii)	Maintenance records	Recordkeeping of maintenance on air pollution control and monitoring equipment	Yes.
§63.10(b)(2)(iv)	Records Related to SSM	Actions taken to minimize emissions during SSM	No.
§63.10(b)(2)(v)	Records Related to SSM	Actions taken to minimize emissions during SSM	No.
§63.10(b)(2)(vi)–(xi)	CMS Records	Malfunctions, inoperative, out-of-control periods	No.
§63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test	Yes.
§63.10(b)(2)(xiv)	Records	All documentation supporting Initial Notification and Notification of Compliance Status	Yes.
§63.10(b)(3)	Records	Applicability determinations	Yes.
§63.10(c)	Records	Additional records for CMS	No.
§63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.
§63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority	Yes.
§63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	No.
§63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension	Yes.
§63.10(d)(5)	SSM Reports	Contents and submission	No. <i>See</i> §63.11126(b) for malfunction reporting requirements.

Citation	Subject	Brief description	Applies to subpart CCCCC
§63.10(e)(1)–(2)	Additional CMS Reports	Must report results for each CEMS on a unit; written copy of CMS performance evaluation; two-three copies of COMS performance evaluation	No.
§63.10(e)(3)(i)–(iii)	Reports	Schedule for reporting excess emissions	No.
§63.10(e)(3)(iv)–(v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedances (now defined as deviations); provision to request semiannual reporting after compliance for 1 year; submit report by 30th day following end of quarter or calendar half; if there has not been an exceedance or excess emissions (now defined as deviations), report contents in a statement that there have been no deviations; must submit report containing all of the information in §§63.8(c)(7)–(8) and 63.10(c)(5)–(13)	No.
§63.10(e)(3)(iv)–(v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedances (now defined as deviations); provision to request semiannual reporting after compliance for 1 year; submit report by 30th day following end of quarter or calendar half; if there has not been an exceedance or excess emissions (now defined as deviations), report contents in a statement that there have been no deviations; must submit	No, §63.11130(K) specifies excess emission events for this subpart.

Citation	Subject	Brief description	Applies to subpart CCCCC
		report containing all of the information in §§63.8(c)(7)–(8) and 63.10(c)(5)–(13)	
§63.10(e)(3)(vi)–(viii)	Excess Emissions Report and Summary Report	Requirements for reporting excess emissions for CMS; requires all of the information in §§63.10(c)(5)–(13) and 63.8(c)(7)–(8)	No.
§63.10(e)(4)	Reporting COMS Data	Must submit COMS data with performance test data	No.
§63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for Administrator to waive	Yes.
§63.11(b)	Flares	Requirements for flares	No.
§63.12	Delegation	State authority to enforce standards	Yes.
§63.13	Addresses	Addresses where reports, notifications, and requests are sent	Yes.
§63.14	Incorporations by Reference	Test methods incorporated by reference	Yes.
§63.15	Availability of Information	Public and confidential information	Yes.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4184, Jan. 24, 2011]

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

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

Source Description and Location

Source Name: Jerry David Enterprises, Inc.
Source Location: 4301 Hogue Road, Evansville, IN 47712
County: Vanderburgh
SIC Code: 2951
Operation Permit No.: F 163-28873-00082
Operation Permit Issuance Date: October 6, 2010
Significant Permit Revision No.: 163-32093-00082
Permit Reviewer: Bruce Farrar

On July 5, 2012, the Office of Air Quality (OAQ) received an application from Jerry David Enterprises, Inc., related to a modification to an existing stationary batch-mix, hot-mix asphalt plant.

Source Definition

Jerry David Enterprises, Inc. operates an asphalt plant and a ready-mix concrete batch plant at 4301 Hogue Road, Evansville, IN 47712.

IDEM, OAQ has determined that the two plants are one major source. This determination was initially made under FESOP No. 163-28873-00082, issued on October 6, 2010.

Existing Approvals

The source was issued FESOP Renewal No. 163-28873-00082 on October 6, 2010.

County Attainment Status

The source is located in Vanderburgh County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Attainment effective January 30, 2006, for the Evansville area, including Vanderburgh County, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.

¹Attainment effective October 18, 2000, for the 1-hour ozone standard for the Evansville area, including Vanderburgh County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour designation was revoked effective June 15, 2005.

Unclassifiable or attainment effective October 27, 2011, for PM_{2.5}.

- (a) Ozone Standards
 Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality

Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Vanderburgh County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM_{2.5}

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

(c) Other Criteria Pollutants

Vanderburgh County has been classified as attainment or unclassifiable in Indiana for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

These types of operations are not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, however, the batch-mix, hot-mix asphalt plant is subject to an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Status of the Existing Source

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

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)								
	PM	PM10*	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Worst Single HAP
Ducted Emissions - Batch-mix, Hot-mix Asphalt Plant									
Dryer Fuel Combustion (worst case) ⁽¹⁾	4.82	5.71	5.71	51.62	13.77	0.53	8.09	0.30	0.17 (hexane)
Dryer/mixer and batch tower (Process) ⁽²⁾	50.00	38.70	27.00	8.80	12.00	0.82	40.00	0.88	0.31 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion	0.01	0.03	0.03	0.003	0.44	0.02	0.37	0.01	0.008
Worst Case Emissions ^a	50.01	38.73	27.03	51.62	14.20	0.84	40.37	0.89	0.31 (formaldehyde)
Ducted Emissions - Ready-mix Concrete Batch Plant									
Hot Water Heater Fuel Combustion	0.03	0.12	0.12	0.01	1.53	0.08	1.29	0.029	0.028 (hexane)
Material Conveying	2.02	0.74	0.74	0	0	0	0	0	0
Silo Loading ⁽²⁾	41.22	17.27	17.27	0	0	0	0	0.01	0.005 (manganese)
Weigh Hopper Loading ⁽²⁾	0.38	0.18	0.18	0	0	0	0	0.02	0.008 (manganese)
Truck Loading ⁽²⁾	74.63	20.85	20.85	0	0	0	0	0.01	7.23E-04 (manganese)
Total Ducted/ Ductable Emissions	118.27	39.16	39.16	0.01	1.53	0.08	1.29	0.07	0.028 (hexane)
Fugitive Emissions									
Asphalt Load-Out, Silo Filling, On-Site Yard ⁽¹⁾	0.11	0.11	0.11	0	0	1.71	0.29	0.03	0.009 (formaldehyde)
Material Storage Piles	0.07	0.03	0.03	0	0	0	0	0	0
Material Processing and Handling ⁽¹⁾	3.69	1.75	1.49	0	0	0	0	0	0
Material Crushing, Screening, and Conveying ⁽¹⁾	2.66	0.93	0.93	0	0	0	0	0	0
Unpaved and Paved Roads (worst case) ⁽¹⁾	4.45	0.86	0.13	0	0	0	0	0	0
Cold-Mix Asphalt Production	0	0	0	0	0	0	0	0	0
Cold-Mix Asphalt Stockpile Storage	0	0	0	0	0	0.67	0	0.18	0.06 (xylene)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.010	0	0.011	0.004 (xylenes)
Volatile Organic Liquid Storage Vessels ^β	0	0	0	0	0	negl	0	negl	negl
Total Fugitive Emissions	10.99	3.68	2.69	0	0	2.40	0.29	0.22	0.064 (xylenes)
Total Limited/ Controlled Emissions									
	179.27	81.57	68.87	51.63	15.74	3.32	41.94	1.17	0.31 (formaldehyde)

Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	NA	250	250	250	250	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	100	NA	NA	NA	NA	NA	NA

negl = negligible
 NA = Not applicable

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

α 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

β 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 limit 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).

These emissions are based upon FESOP Renewal 163-28873-00082 issued on October 6, 2010.

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).
- (b) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the Permittee has accepted limits on HAPs emissions to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Jerry David Enterprises, Inc. on July 5, 2012, relating to the replacement of:

- (a) The aggregate rotary dryer with a maximum burner heat input capacity of 22 MMBtu/hr with a dryer with a maximum burner heat input capacity of 80 MMBtu/hr.
- (b) The batch mixer (pugmil) with a maximum throughput capacity of 60 tons of aggregate per hour with a batch mixer with a maximum throughput capacity of 180 tons of aggregate per hour.
- (c) Add one (1) belt conveyor to the material handling, screening, and conveying operations of the batch hot-mix asphalt plant.

With the replacement of these units, the limited PTE of the entire source has been revised. In addition, the following significant changes to the permit are made:

- (c) The addition of these units causes the PTE of PM fugitive emissions for the entire source to be greater than 25 tons per year. Therefore, the source is now subject to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations).
- (d) The addition of these units causes the PTE of SO2 for the entire source to be greater than 100 tons per year. Therefore, fuel limitations have to be added to the permit to maintain the FESOP status.

- (e) Section E.2 (NESHAP Requirements) and Attachment C have been updated to incorporate the January 2011 changes in 40 CFR 63 Subpart CCCCCC (National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities).
- (f) The addition of the one (1) belt conveyor to the material handling, screening, and conveying operations does not affect the PTE or limited PTE because the PTE is based on the throughput of the batch mixer operation.

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – FESOP Revision

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

Process/ Emission Unit	PTE of Proposed Revision (tons/year)									
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e	Total HAPs	Worst Single HAP
Ducted Emissions - Batch-mix, Hot-mix Asphalt Plant										
Dryer Fuel Combustion (worst case)	17.52	20.77	1.93	187.71	50.06	1.93	29.43	60,653	1.08	0.63 (hexane)
Dryer/Mixer and Batch Tower (Process)	25,228	3,547	212.87	69.38	94.61	6.46	315.36	29,293	6.12	2.13 (xylene)
Total PTE of Proposed Revision ^α	25,228	3,547	212.87	187.71	94.61	6.46	315.36	60,653	6.12	2.13 (xylene)

^α Worst Case Emissions (tons/yr) = Worst Case Emissions from either the new Dryer Fuel Combustion or the new Dryer/Mixer.

This FESOP is being revised through a FESOP Significant Permit Revision pursuant to:

- (a) 326 IAC 2-8-11.1(f)(1)(E), because the revision involves the construction of an aggregate rotary dryer and batch mixer each with potential to emit (PTE) greater than 25 tons per year.
- (b) 326 IAC 2-8-11.1(g) because it involves adjustment to the existing source-wide emissions limitations to maintain the FESOP status of the source (see PTE of the Entire Source After The Issuance of the FESOP Revision Section).

PTE of the Entire Source After Issuance of the FESOP Revision

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

Jerry David Enterprises, Inc.
Evansville, Indiana
Permit Reviewer: Bruce Farrar

Page 6 of 31
TSD for FESOP SPR No. 163-32093-00082

values.

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)									
	PM	PM10*	PM2.5	SO2	NOx	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Ducted Emissions - Batch-mix, Hot-mix Asphalt Plant										
Dryer Fuel Combustion (worst case) ⁽¹⁾	4.82	5.71	5.71	51.62	13.77 35.04	0.53 1.93	8.09 29.43	42,362	0.30 0.75	0.17 0.63 (hexane)
Dryer/mixer and batch tower (Process) ⁽²⁾	50.00	38.70	27.00 38.70	8.80	12.00	0.82 0.80	40.00	3,716	0.88 0.78	0.31 0.27 (formaldehyde) (xylene)
Dryer/Mixer Slag Processing	0	0	0	0	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion	0.01	0.03	0.03	0.003	0.44	0.02	0.37	876	0.01	0.008 (hexane)
Worst Case Emissions ^a	50.01	38.73	27.03 38.73	51.62	14.20 35.48	0.84 1.95	40.37	43,238	0.89 0.78	0.31 0.67 (formaldehyde) (xylene)
Ducted Emissions - Ready-mix Concrete Batch Plant										
Hot Water Heater Fuel Combustion	0.03	0.12	0.12	0.01	1.53	0.08	1.29	1,853	0.029	0.028 (hexane)
Material Conveying	2.02	0.74	0.74	0	0	0	0	0	0	0
Silo Loading ⁽²⁾	41.22	17.27	17.27	0	0	0	0	0	0.01	0.005 (manganese)
Weigh Hopper Loading ⁽²⁾	0.38	0.18	0.18	0	0	0	0	0	0.02	0.008 (manganese)
Truck Loading ⁽²⁾	74.63	20.85	20.85	0	0	0	0	0	0.01	7.23E-04 (manganese)
Total Ducted/ Ductable Emissions	118.27	39.16	39.16	0.01	1.53	0.08	1.29	1,853	0.07	0.028 (hexane)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard ⁽¹⁾	0.11	0.11	0.11	0	0	1.71	0.29	0	0.03	0.01 (formaldehyde)
Material Storage Piles	0.07 0.16	0.03 0.06	0.03 0.06	0	0	0	0	0	0	0
Material Processing and Handling ⁽¹⁾	3.69 0.65	1.75 0.31	1.49 0.05	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying ⁽¹⁾	2.66	0.93	0.93	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case) ⁽¹⁾	4.45 0.13	0.86 0.06	0.13 0.02	0	0	0	0	0	0	0
Cold-Mix Asphalt Production	0	0	0	0	0	0	0	0	0	0
Cold-Mix Asphalt Stockpile Storage	0	0	0	0	0	0.67	0	0	0.18	0.06 (xylene)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.01	0	0	0.011	0.004 (xylenes)
Volatile Organic Liquid Storage Vessels ^b	0	0	0	0	0	negl	0	0	negl	negl
Total Fugitive Emissions	10.99 3.71	3.68 1.43	2.69 1.15	0	0	2.40	0.29	0	0.22	0.06 (xylenes)

Total Limited/ Controlled Emissions	479.27 171.99	81.57 79.32	68.87 79.04	51.63 51.63	15.74 37.01	3.32 4.43	41.94	45,091	1.17	0.34 (formaldehyde) 0.70 (xylenes)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	NA 250	250	250	250	250	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	100 NA	NA	NA	NA	NA	NA	NA	NA

negl = negligible

NA = Not applicable

*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

**The 100,000 CO2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

α 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

β 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 limit 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).

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

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)									
	PM	PM10*	PM2.5	SO2	NOx	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Ducted Emissions - Batch-mix, Hot-mix Asphalt Plant										
Dryer Fuel Combustion (worst case) ⁽¹⁾	4.82	5.71	5.71	51.62	35.04	1.93	29.43	42,362	0.30 0.75	0.63 (hexane)
Dryer/mixer and batch tower (Process) ⁽²⁾	50.00	38.70	38.70	8.80	12.00	0.80	40.00	3,716	0.78	0.27 (xylene)
Dryer/Mixer Slag Processing	0	0	0	0	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion	0.01	0.03	0.03	0.003	0.44	0.02	0.37	876	0.01	0.008 (hexane)
Worst Case Emissions ^a	50.01	38.73	38.73	51.62	35.48	1.95	40.37	43,238	0.78	0.67 (xylene)
Ducted Emissions - Ready-mix Concrete Batch Plant										
Hot Water Heater Fuel Combustion	0.03	0.12	0.12	0.01	1.53	0.08	1.29	1,853	0.029	0.028 (hexane)
Material Conveying	2.02	0.74	0.74	0	0	0	0	0	0	0
Silo Loading ⁽²⁾	41.22	17.27	17.27	0	0	0	0	0	0.01	0.005 (manganese)
Weigh Hopper Loading ⁽²⁾	0.38	0.18	0.18	0	0	0	0	0	0.02	0.008 (manganese)
Truck Loading ⁽²⁾	74.63	20.85	20.85	0	0	0	0	0	0.01	7.23E-04 (manganese)
Total Ducted/ Ductable Emissions	118.27	39.16	39.16	0.01	1.53	0.08	1.29	1,853	0.07	0.028 (hexane)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard ⁽¹⁾	0.11	0.11	0.11	0	0	1.71	0.29	0	0.03	0.01 (formaldehyde)
Material Storage Piles	0.16	0.06	0.06	0	0	0	0	0	0	0
Material Processing and Handling ⁽¹⁾	0.65	0.31	0.05	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying ⁽¹⁾	2.66	0.93	0.93	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case) ⁽¹⁾	0.13	0.06	0.02	0	0	0	0	0	0	0
Cold-Mix Asphalt Production	0	0	0	0	0	0	0	0	0	0
Cold-Mix Asphalt Stockpile Storage	0	0	0	0	0	0.67	0	0	0.18	0.06 (xylene)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.01	0	0	0.011	0.004 (xylenes)
Volatile Organic Liquid Storage Vessels ^b	0	0	0	0	0	negl	0	0	negl	negl
Total Fugitive Emissions	3.71	1.43	1.15	0	0	2.40	0.29	0	0.22	0.06 (xylenes)
Total Limited/ Controlled Emissions	171.99	79.32	79.04	51.63	37.01	4.43	41.94	45,091	1.17	0.70 (xylenes)

Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA							

negl = negligible

NA = Not applicable

*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

**The 100,000 CO2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

α 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

β 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 limit 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).

(a) FESOP Status

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

(1) In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), PM10, PM2.5, and CO emissions from the dryer/mixer process shall be limited as follows:

(A) The asphalt production rate shall not exceed 200,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month. *This is an existing requirement.*

(B) PM10 emissions from the dryer/mixer shall not exceed 0.387 pounds of PM10 per ton of asphalt produced. *This is an existing requirement.*

(C) The PM2.5 emissions from the dryer/mixer shall not exceed 0.387 pounds of PM2.5 per ton of asphalt processed. *This is a change from 0.27 pounds of PM2.5 per ton of asphalt produced.*

(D) CO emissions from the dryer/mixer shall not exceed 0.40 pounds of CO per ton of asphalt produced. *This is an existing requirement.*

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

(These are Title I changes.)

(2) In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), SO2 emissions from the dryer/mixer fuel combustion shall be limited as follows:

(A) Fuel Specifications

- (i) The sulfur content of No. 2 fuel oil shall not exceed 0.50% by weight. *This is an existing requirement.*
- (ii) The sulfur content of No. 4 fuel oil shall not exceed 0.50% by weight. *This is an existing requirement.*

(B) Single Fuel 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:

- (i) Natural Gas usage shall not exceed 701 MMCF per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from 193 MMCF per twelve (12) consecutive month period.*
- (ii) No. 2 fuel oil usage shall not exceed 1,376,571 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is an existing requirement.*
- (iii) Waste oil usage shall not exceed 1,376,571 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is an existing requirement.*

Note: The source is only permitted to burn the above-mentioned fuels.

(These are Title I changes)

(b) PSD Minor Source

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

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

- (1) The amount of hot-mix asphalt processed shall not exceed 200,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is an existing requirement.*
- (2) PM emissions from the dryer/mixer shall not exceed 0.50 pounds per ton of asphalt processed. *This is an existing requirement.*

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

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) The source is still subject to the New Source Performance Standards for Hot Mix Asphalt Facilities (40 CFR 60.90, Subpart I) because this source meets the definition of a hot mix asphalt facility

pursuant to the rule and the source was constructed after June 11, 1973. This rule limits particulate matter emissions to 0.04 grains per dry standard cubic foot (gr/dscf) and visible emissions to 20% opacity. The source will be able to comply with 40 CFR 60.90, Subpart I by using a baghouse with a primary dust collector to limit particulate matter emissions from the aggregate dryer/burner to less than 0.04 gr/dsc. The units subject to this rule include the following:

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

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

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

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

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (c) 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 this revision for the dryer/mixer burner, because although this existing source is an area source of hazardous air pollutants (HAP), as defined in §63.2, the dryer/mixer burner is a direct-fired process unit and not a boiler, as defined in 40 CFR 63.11237.
- (d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

Compliance Assurance Monitoring (CAM)

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

State Rule Applicability Determination

The following state rules are applicable to the proposed revision:

- (a) 326 IAC 2-8-4 (FESOP)
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP). See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.

- (c) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The proposed revision is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from the new units is less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.
- (d) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (e) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (g) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (h) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
Due to this revision, the source is subject to the requirements of 326 IAC 6-5, because the source has potential fugitive particulate emissions greater than 25 tons per year. Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan. *This is a new requirement.*

(This is a Title I change)

Aggregate Rotary Dryer (80 MMBtu/hr)/Batch Mixer (180 tons of aggregate per hour)

- (i) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
The Aggregate Rotary Dyer is not a source of indirect heating, as defined in 326 IAC 1-2-19 "Combustion for Indirect Heating". Therefore, the requirements of 326 IAC 6-2 do not apply and are not included in this revision.
- (j) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
The dryer/mixer is located in Vanderburgh County, and is not specifically listed in 326 IAC 6.5-8. Additionally, the entire source has an unlimited potential to emit particulate matter greater than one hundred (100) tons per year, and actual particulate matter (PM) emissions greater than ten (10) tons per year. Therefore, pursuant to 326 IAC 6.5-1-2(a), PM emissions from the dryer/mixer shall each not exceed seven hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)) of exhaust air.
- (k) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)
The dryer/mixer is subject to 326 IAC 7-1.1 because its potential to emit SO₂ is equal to or greater than twenty-five (25) tons/year, or ten (10) pounds/hour, (unlimited potential emissions are 187.71

tons per year). Therefore, pursuant to this rule, sulfur dioxide emissions from the dryer burner shall continue to be limited to Five-tenths (0.5) pounds per million Btu heat input for distillate oil combustion.

Note: No. 2 and No.4 fuel oils are considered distillate oil and waste oil is considered residual oil.

- (l) 326 IAC 8-1-6 (VOC rules: General Reduction Requirements for New Facilities)
 The unlimited potential VOC emissions from the dryer/mixer is less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 do not apply and are not included in this revision.
- (m) There are no other 326 IAC 8 Rules that are applicable to the portable drum hot-mix asphalt plant.
- (n) 326 IAC 9-1 (Carbon Monoxide Emission Limits)
 The dryer/mixer is not one of the source types listed in 326 IAC 9-1-2. Therefore, the requirements of 326 IAC 9-1 do not apply and are not included in the permit.
- (o) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category)
 The dryer/mixer does not meet the definition of an affected facility, as defined in 326 IAC 10-3-1(a), because it still has a maximum a heat input of less than two hundred fifty million (250,000,000) British thermal units per hour (MMBtu/hr); therefore, it is not subject to this rule.
- (q) 326 IAC 12 (New Source Performance Standards)
 See Federal Rule Applicability Section of this TSD.

Compliance Determination, Monitoring and Testing Requirements
--

- (a) The compliance determination requirements applicable to this proposed revision are as follows:
 - (1) In order to comply with the PM, PM10 and PM2.5 limitations in the permit, the baghouse for the dryer/mixer, shall continue to be in operation and control emissions from the dryer/mixer at all times that the dryer/mixer is in operation. (This is an existing requirement for this source)
 - (2) The annual hot-mix asphalt production rate will be used to verify compliance with the PSD PM emission limit, and the FESOP PM10, PM2.5 and CO emission limitations. (This is an existing requirement for this source)
- (b) The testing requirements applicable to this proposed revision are as follows:

Emission Unit	Control Device	Pollutant	Timeframe for Testing	Frequency of Testing
Dryer/mixer	Baghouse (BH1)	PM	Not later than 180 days after start up of new Aggregate Rotary Dryer and Batch Mixer	Once every five (5) years
Dryer/mixer	Baghouse (BH1)	PM10	Not later than 180 days after start up of new Aggregate Rotary Dryer and Batch Mixer	Once every five (5) years
Dryer/mixer	Baghouse (BH1)	PM2.5	Not later than 180 days after start up of new Aggregate Rotary Dryer and Batch Mixer	Once every five (5) years

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

compliance at that time. A retest is required because of the significant process weight and dryer MMBtu/hr increase.

This is a Title I change.

- (c) The hot-mix asphalt batch mixer and aggregate dryer/burner, baghouse stack exhaust has applicable compliance monitoring conditions as specified below:

Emission Unit & Control Device	Parameter	Frequency	Range	Excursions and Exceedances
dryer/mixer/ Baghouse (BH1)	Visible Emissions	Once per day	normal/abnormal	Response Steps
	Pressure Drop	Once per day	0.5 to 6.5 inches	Response Steps

These monitoring conditions are necessary because the baghouse (BH1) used in conjunction with the batch-mix, hot-mix dryer/mixer must operate properly to ensure continued compliance with 40 CFR 60, Subpart I, 326 IAC 2-8 (FESOP), and 326 IAC 6.5 (Particulate Matter Limitations Except Lake County), and the limits that render 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70 Permit Program) not applicable.

Proposed Changes

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

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

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

- (a) One (1) batch hot-mix asphalt plant, consisting of the following:
- (1) One (1) aggregate rotary dryer, identified as Heater 1, ~~constructed in 1976~~ **approved for construction in 2012**, with a maximum burner heat input capacity of ~~twenty-two (22)~~ **80** million British thermal units per hour (mmBtu/hr), firing natural gas, No. 2 fuel oil, and No. 4 fuel oil, **equipped with one (1) jetpulse baghouse, identified as BH1, for particulate control**, and exhausting to the outside atmosphere;
 - (2) One (1) batch mixer (pugmill), ~~constructed in 1976,~~ **approved for construction in 2012**, with a maximum throughput capacity of ~~sixty (60)~~ **180** tons of aggregate per hour, equipped with one (1) jetpulse baghouse, **identified as BH1**, for particulate control, and exhausting to the outside atmosphere;
 - (3) Material handling, screening, and conveying operations, constructed in 1976 **and approved for modification in 2012**, uncontrolled and exhausting to the outside atmosphere, and consisting of the following:
 - (A) ***
 - (B) ***
 - (C) ***
 - (D) ~~Two (2)~~ **Three (3)** belt conveyors;

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:

- (n) Natural gas pressure regulator vents, excluding venting at oil and gas production facilities;
; and

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Batch-mix, Hot-mix Asphalt Plant

- (a) One (1) batch hot-mix asphalt plant, consisting of the following:
 - (1) One (1) aggregate rotary dryer, identified as Heater 1, ~~constructed in 1976~~ **approved for construction in 2012**, with a maximum burner heat input capacity of ~~twenty-two (22)~~ **80** million British thermal units per hour (mmBtu/hr), firing natural gas, No. 2 fuel oil, and No. 4 fuel oil, **equipped with one (1) jetpulse baghouse, identified as BH1, for particulate control**, and exhausting to the outside atmosphere;
 - (2) One (1) batch mixer (pugmill), ~~constructed in 1976~~, **approved for construction in 2012**, with a maximum throughput capacity of ~~sixty (60)~~ **180** tons of aggregate per hour, equipped with one (1) jetpulse baghouse, **identified as BH1**, for particulate control, and exhausting to the outside atmosphere;
 - (3) Material handling, screening, and conveying operations, constructed in 1976 **and approved for modification in 2012**, uncontrolled and exhausting to the outside atmosphere, and consisting of the following:
 - (A) ***
 - (B) ***
 - (C) ***
 - (D) ~~Two (2)~~ **Three (3)** belt conveyors;

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

D.1.1 PSD Minor Limit [326 IAC 2-2]

D.1.2 FESOP and PSD Minor Limits [326 IAC 2-8-4] [326 IAC 2-2]

D.1.3 FESOP Limits **PM10, PM2.5 and CO** [326 IAC 2-8-4] [326 IAC 2-1.1-5] [326 IAC 2-2]

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

- (a) ***
- (b) PM10 emissions from the dryer/mixer shall not exceed ~~three hundred eighty-seven thousandths (0.387)~~ pounds of PM10 per ton of asphalt produced.
- (c) **PM2.5 emissions from the dryer/mixer shall not exceed 0.387 pounds of PM2.5 per ton of asphalt produced.**

- ~~(e)~~(d) CO emissions from the dryer/mixer shall not exceed ~~forty hundredths (0.40)~~ pounds of CO per ton of asphalt produced.

Compliance with these limits, combined with the limited potential to emit PM10, **PM2.5**, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, **PM2.5** and CO to less than one hundred (100) tons per twelve (12) consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permit Program), 326 IAC 2-1.1-5 (Nonattainment New Source Review), and 326 IAC 2-2 (PSD) not applicable.

D.1.4 FESOP Limits: SO₂ [326 IAC 2-8-4]

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

- (a) 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 701 MCF per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (2) No. 2 fuel oil usage shall not exceed 1,376,571 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 1,376,571 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) When combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, SO₂ emissions from the dryer/mixer burner shall not exceed 51.62 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the potential to emit SO₂ from all other emission units at this source, shall limit the source-wide total potential to emit of SO₂ to less than 100 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits not applicable).

D.1.45 Particulate Matter (PM) [326 IAC 6.5-1-2]

D.1.56 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1][326 IAC 7-2-1]

Note: No. 2 and No.4 fuel oils are considered distillate oil.

D.1.67 Volatile Organic Compound Rules for Asphalt Pavers [326 IAC 8-5-2]

D.1.78 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements

D.1.89 Particulate Matter (PM, and PM10, and PM2.5) Control

- (a) In order to comply with Conditions D.1.1, D.1.3, and D.1.45, the baghouse for particulate

control shall be in operation and control emissions from the dryer/mixer at all times when the dryer/mixer is in operation.

(b) ***

D.1.910 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), the Permittee shall perform PM testing of the dryer/mixer, **not later than 180 days after installation of the dryer/mixer**, utilizing methods approved by the Commissioner, ~~at least once every five (5) years from the date of the most recent valid compliance demonstration.~~ **These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration.** Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.
- (b) In order to demonstrate compliance with Condition D.1.3(b), the Permittee shall perform PM10 testing on the dryer/mixer not later than 180 days after ~~publication of the new or revised condensable PM test method(s) referenced in the U.S. EPA’s Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM2.5) signed on May 8th, 2008, or not later than five (5) years from the most recent valid compliance demonstration, whichever is later~~ **installation of the dryer/mixer**. This testing shall be conducted utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM10 includes filterable and condensable PM.
- (c) **In order to demonstrate compliance with Condition D.1.3(c), the Permittee shall perform PM2.5 testing on the dryer/mixer not later than 180 days after installation of the dryer/mixer. This testing shall be conducted utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM2.5 includes filterable and condensable PM.**

D.1.4011 Sulfur Dioxide Emissions and Sulfur Content

~~Compliance with the fuel limitations established in Conditions D.1.5(a) and D.1.5(b) - Sulfur Dioxide (SO₂) shall be determined utilizing one of the following options:~~

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

Pursuant to 326 IAC 3-7-4 and 326 IAC 2-8-4, Compliance with the fuel limitations established in Conditions D.1.4, D.1.6(a) and D.1.6(b), shall be determined utilizing one of the following options. Compliance shall be demonstrated on a thirty (30) day calendar-month average.

- (1) Providing vendor analysis of heat content and sulfur content of the fuel delivered, if accompanied by a vendor certification; or

- (2) Analyzing the fuel sample to determine the sulfur content of the fuel via the procedures in 40 CFR 60, Appendix A, Method 19.
- (A) Fuel samples may be collected from the fuel tank immediately after the fuel tank is filled and before any fuel is combusted; and
- (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (b) (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the ~~72 MMBtu per hour burner~~ **dryer/mixer**, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

D.1.12 Multiple Fuel and Slag Usage Limitations

In order to comply with the Condition D.1.4(b) when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, the Permittee shall limit fuel usage according to the following formulas:

Sulfur Dioxide (SO₂) Emission Calculation

$$S = \frac{G(E_G) + O_2(E_{O_2}) + O_4(E_{O_4})}{2,000 \text{ lbs/ton}}$$

where:

- S** = tons of sulfur dioxide emissions for a 12-month consecutive period
G = million cubic feet of natural gas used in the last 12 months
O₂ = gallons of No. 2 fuel oil used in the last 12 months
O₄ = gallons of No. 4 fuel oil used in the last 12 months
E_G = 0.6 lb/MMCF of natural gas
E_{O₂} = 71.0 lb/1000 gallons of No. 2 fuel oil
E_{O₄} = 75.0 lb/1000 gallons of No. 4 fuel oil

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

D.1.4413 Visible Emissions Notations

D.1.4214 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with the dryer/mixer, at least once per day when the dryer/mixer is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of five tenths (0.5) and six and five tenths (6.5) inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. **The normal range for this unit is a pressure drop between five tenths (0.5) and six and five tenths (6.5) inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.** 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.

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

D.1.4315 Broken or Failed Bag Detection

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

D.1.4416 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.1.1(a), and D.1.3(a), the Permittee shall keep monthly records of the amount of asphalt processed through the dryer/mixer.
- (b) To document the compliance status with Conditions **D.1.4**, D.1.56 and D.1.4011, the Permittee shall maintain records in accordance with (1) through (8) below. Records maintained for (1) through (8) below shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Condition D.1.5.
- (1) Calendar dates covered in the compliance determination period;
 - (2) Actual fuel usage, sulfur content, and heat content, for each fuel used at the source since the last compliance determination period;
 - (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and
 - (4) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Fuel supplier certifications;
 - (ii) The name of the fuel supplier; and
 - (iii) A statement from the fuel supplier that certifies the sulfur content of the No. 2 and No. 4 fuel oils.

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.

- (e) To document the compliance status with Condition D.1.4413, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack (SV1) exhaust once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (f) To document the compliance status with Condition D.1.4214, the Permittee shall maintain records once per day of the pressure drop during normal operation. The Permittee shall include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).
- (g) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.4517 Reporting Requirements

- ~~(a)~~ A quarterly summary of the information to document compliance status with Conditions D.1.1(a), and D.1.3(a), and **D.1.4** shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not 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 E.1 NSPS REQUIREMENTS

Emissions Unit Description: Batch-mix, Hot-mix Asphalt Plant

- (a) One (1) batch hot-mix asphalt plant, consisting of the following:
- (1) One (1) aggregate rotary dryer, identified as Heater 1, ~~constructed in 1976~~ **approved for construction in 2012**, with a maximum burner heat input capacity of ~~twenty-two (22)~~ **80** million British thermal units per hour (mmBtu/hr), firing natural gas, No. 2 fuel oil, and No. 4 fuel oil, **equipped with one (1) jetpulse baghouse, identified as BH1, for particulate control**, and exhausting to the outside atmosphere;
 - (2) One (1) batch mixer (pugmill), ~~constructed in 1976~~, **approved for construction in 2012**, with a maximum throughput capacity of ~~sixty (60)~~ **180** tons of aggregate per hour, equipped with one (1) jetpulse baghouse, **identified as BH1**, for particulate control, and exhausting to the outside atmosphere;
 - (3) Material handling, screening, and conveying operations, constructed in 1976 **and approved for modification in 2012**, uncontrolled and exhausting to the outside atmosphere, and consisting of the following:
 - (A) ***
 - (B) ***
 - (C) ***
 - (D) ~~Two (2)~~ **Three (3)** belt conveyors;

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

~~Pursuant to CFR Part 60, Subpart I, the affected facility to which the provisions of this subpart apply is each hot mix asphalt facility, as defined in § 60.91(a), that commences construction or modification after June 11, 1973. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.~~

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

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

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

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

E.1.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

The Permittee shall perform the stack testing required under NSPS 40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner to document compliance with Condition E.1.2. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

SECTION E.2

NESHAP REQUIREMENTS

Emissions Unit Description: Gasoline Dispensing Facilities

(h) One (1) gasoline fuel transfer and dispensing operation, handling less than or equal to 1,300 gallons per day, having a maximum storage capacity less than or equal to 10,500 gallons, and including one (1) five hundred (500) gallon gasoline storage tank, identified as Tank 4, constructed in 1990, uncontrolled and exhausting to the outside atmosphere.

Under 40 CFR 63, Subpart CCCCCC: National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, the gasoline fuel transfer and dispensing operation, including the five hundred (500) gallon gasoline storage tank, is considered an affected facility.

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

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

~~E.2.1 National Emission Standards for Hazardous Air Pollutants (NESHAPs): Area Source Standards for Source Category: Gasoline Dispensing Facilities [40 CFR 63, Subpart CCCCCC]~~

~~[326 IAC 20]~~

~~Pursuant to 40 CFR § 63.11112(a), the emission sources to which this subpart applies are gasoline storage tanks and associated equipment components in vapor or liquid gasoline service at new, reconstructed, or existing gasoline dispensing facilities (GDF), located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank. Pressure/Vacuum vents on gasoline storage tanks and the equipment necessary to unload product from cargo tanks into the storage tanks at GDF are covered emission sources. The equipment used for the refueling of motor vehicles is not covered by this subpart.~~

~~The gasoline fuel transfer and dispensing operation is therefore subject to the following portions of Subpart CCCCCC (6C) (included as Attachment B of this permit):~~

- ~~(1) — 40 CFR 63.11110~~
- ~~(2) — 40 CFR 63.11111(a)(b)(e)(f)~~
- ~~(3) — 40 CFR 63.11112(a)(d)~~
- ~~(4) — 40 CFR 63.11113(b)~~
- ~~(5) — 40 CFR 63.11116~~
- ~~(6) — 40 CFR 63.11130~~
- ~~(7) — 40 CFR 63.11131~~
- ~~(8) — 40 CFR 63.11132~~

~~The requirements of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63, Subpart 6C.~~

E.2.1 General Provisions Relating to NESHAP CCCCCC [326 IAC 20-1][40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 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 40 CFR Part 63, Subpart CCCCCC in accordance with schedule in 40 CFR 63 Subpart CCCCCC.

(b) Pursuant to 40 CFR 63.10, 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**

and

**United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590**

E.2.2 National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities [40 CFR Part 63, Subpart CCCCCC]

The Permittee which engages gasoline fuel transfer and dispensing operation with the following provisions of 40 CFR 63, Subpart CCCCCC (included as Attachment C of this permit), as specified as follows:

- (a) 40 CFR 63.11110;**
- (b) 40 CFR 63.11111(a), (b), (e), (f), (i);**
- (c) 40 CFR 63.11112(a), (d);**
- (d) 40 CFR 63.11113(b);**
- (e) 40 CFR 63.11115;**
- (f) 40 CFR 63.11116;**
- (g) 40 CFR 63.11125(d);**
- (h) 40 CFR 63.11126(b);**
- (i) 40 CFR 63.11130;**
- (j) 40 CFR 63.11131;**
- (k) 40 CFR 63.11132; and**
- (l) Table 3**

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

FESOP Quarterly Report

Page 1 of 2

Source Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, Indiana 47712
FESOP Permit No.: F163-31099-00082

Facility: Dryer/Mixer

Parameter: Fuel/ SO₂

Emission Limits: Sulfur dioxide (SO₂) emissions shall not exceed 51.62 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12.

Fuel: When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, fuel and slag usage shall not exceed the following:

Fuel Type (Units)	Fuel Usage Limit (per 12 consecutive month period)
Natural Gas (MMCF)	701
No. 2 Distillate Fuel Oil (gallons)	1,376,571
No. 4 Distillate Fuel Oil (gallons)	1,376,571

FESOP Quarterly Report - Fuel / SO2 emissions

QUARTER: _____ YEAR: _____

Month	Fuel Types / Slag (units)	Column 1	Column 2	Column 1 + Column 2	Equation Results
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	Sulfur Dioxide (SO2) Emissions (tons per 12 months)
Month 1	Natural Gas (MMCF)				
	No. 2 Fuel Oil (gallons)				
	No. 4 Fuel Oil (gallons)				
Month 2	Natural Gas (MMCF)				
	No. 2 Fuel Oil (gallons)				
	No. 4 Fuel Oil (gallons)				
Month 3	Natural Gas (MMCF)				
	No. 2 Fuel Oil (gallons)				
	No. 4 Fuel Oil (gallons)				

No deviation occurred in this reporting period. Submitted by: _____ Date: _____

Deviation/s occurred in this reporting period. Title / Position: _____ Phone: _____

Deviation has been reported on: _____ Signature: _____

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

- (1) Effective October 27, 2011, Vanderburgh county was designated Unclassifiable or attainment, for PM2.5.
- (2) IDEM, OAQ, has decided to clarify Condition D.13 Parametric Monitoring.
- (3) On October 27, 2010, the Indiana Air Pollution Control Board issued revisions to 326 IAC 2. These revisions resulted in changes to the rule sites listed in the permit. These changes are not changes to the underlining provisions. The change is only to site of these rules in Section B - Operational Flexibility. IDEM, OAQ has clarified the rule sites for the Preventive Maintenance Plan.
- (4) Effective with this permit, 326 IAC 6-5 is applicable to this source, therefore a Fugitive Particulate Matter Emission Limitations has been added to Section C.
- (5) IDEM, OAQ has clarified the Permittee's responsibility with regards to record keeping.
- (6) IDEM, OAQ has clarified the interaction of the Quarterly Deviation and Compliance Monitoring Report and the Emergency Provisions.

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

The Permittee owns and operates a stationary batch-mix, hot-mix asphalt plant and a stationary ready-mix concrete batch plant. This source does not perform any crushing activities, does not use any slag or shingles in the asphalt aggregate mix, and does not manufacture and/or produce cold-mix asphalt.

Source Address:	4301 Hogue Road, Evansville, Indiana 47712
General Source Phone Number:	(812) 422-1827
SIC Code:	2951, 3273
County Location:	Vanderburgh
Source Location Status:	Nonattainment for PM2.5 standard Attainment for all other 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

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

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) **and (c)** ~~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)(2), (c)(1), and (d)~~ **(b)(1) and (c)**. 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)(1) and (c)**.

- (b) Emission Trades [326 IAC 2-8-15 ~~(e)~~ **(b)**]
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 ~~(e)~~ **(b)**.
- (c) Alternative Operating Scenarios [326 IAC 2-8-15 ~~(d)~~ **(c)**]
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.

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

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

C.89 Performance Testing [326 IAC 3-6]

Compliance Requirements [326 IAC 2-1.1-11]

C.910 Compliance Requirements [326 IAC 2-1.1-11]

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

C.4011 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

C.4412 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

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

C.4213 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

C.4314 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

C.4415 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

C.4516 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

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

C.4617 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. **Support information includes the following:**

- (AA) All calibration and maintenance records.**
- (BB) All original strip chart recordings for continuous monitoring instrumentation.**
- (CC) Copies of all reports required by the FESOP.**

Records of required monitoring information include the following:

- (AA) The date, place, as defined in this permit, and time of sampling or measurements.**
- (BB) The dates analyses were performed.**
- (CC) The company or entity that performed the analyses.**
- (DD) The analytical techniques or methods used.**
- (EE) The results of such analyses.**
- (FF) The operating conditions as existing at the time of sampling or measurement.**

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.4718 General Reporting Requirements

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. **Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph.** 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.

C.4819 Compliance with 40 CFR 82 and 326 IAC 22-1

**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: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, Indiana 47712
FESOP Permit No.: F163-28873-00082

Months: _____ to _____ Year: _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. **Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting.** 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".

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on July 5, 2012.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Revision No. 163-32093-00082. The staff recommends to the Commissioner that this FESOP Significant Revision be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Bruce Farrar at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5401 or toll free at 1-800-451-6027 extension 4-5401.

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

Appendix A.1: Unlimited Emissions Calculations
Hot-Mix Asphalt Batch Plant and Ready-Mix Concrete Batch Plant, Combined
Entire Source Summary

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Asphalt Plant Maximum Capacity

Concrete Batch Plant Maximum Capacity

Maximum Hourly Asphalt Production =	180	ton/hr		Maximum Hourly Concrete Production =	60	cubic yards/hr	
Maximum Annual Asphalt Production =	1,576,800	ton/yr		Maximum Hourly Concrete Production =	120	tons/hr	
Maximum Annual Blast Furnace Slag Usage =	0	ton/yr	1.5	Maximum Annual Concrete Production =	525,600	cubic yards/year	
Maximum Annual Steel Slag Usage =	0	ton/yr	0.66	Maximum Annual Concrete Production =	1,051,200	tons/yr	
Maximum Dryer Fuel Input Rate =	80.0	MMBtu/hr		Maximum Annual Aggregate Usage * =	497,937	tons/yr	
Natural Gas Usage =	701	MMCF/yr	0.50	Maximum Annual Sand Usage * =	846,800	tons/yr	
No. 2 Fuel Oil Usage =	5,005,714	gal/yr, and	0.50	Maximum Annual Cement Usage * =	191,127	tons/yr	
No. 4 Fuel Oil Usage =	5,005,714	gal/yr, and	0	Maximum Annual Cement Supplement Usage * =	36,041	tons/yr	
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0	Maximum Hot Water Heater Fuel Input Rate =	3.50	MMBtu/hr	
Propane Usage =	0	gal/yr, and	0	Natural Gas Usage =	30.66	MMCF/yr	
Butane Usage =	0	gal/yr, and	0				
Used/Waste Oil Usage =	0	gal/yr, and	0				
Diesel Fuel Usage - Generator < 600 HP =	0	gal/yr, and	0				
Diesel Fuel Usage - Generator > 600 HP =	0	gal/yr	0				
							0 % ash, 0 % chlorine, 0 % lead
Unlimited PM Dryer/Mixer Emission Factor =	32.0	lb/ton of asphalt production		Unlimited PM Concrete Production/Truck Loading Emission Factor =	0.995	lb/ton of concrete production	
Unlimited PM10 Dryer/Mixer Emission Factor =	4.50	lb/ton of asphalt production		Unlmtd PM10/PM2.5 Concrete Prdctn/Truck Ldng Emission Factor =	0.278	lb/ton of concrete production	
Unlimited PM2.5 Dryer/Mixer Emission Factor =	0.27	lb/ton of asphalt production		Unlimited PM Cement Handling Emission Factor =	0.72	lb/ton of cement received	
Unlimited VOC Dryer/Mixer Emission Factor =	0.0082	lb/ton of asphalt production		Unlimited PM10/PM2.5 Cement Handling Emission Factor =	0.46	lb/ton of cement received	
Unlimited CO Dryer/Mixer Emission Factor =	0.40	lb/ton of asphalt production		Unlimited PM Cement Supplement Handling Emission Factor =	3.14	lb/ton of cement supplement rec'd	
Unlimited Blast Furnace Slag SO2 Dryer/Mixer Emission Factor =	0.74	lb/ton of slag processed		Unlimited PM10/PM2.5 Cement Supplement Handling Emission Factor =	1.10	lb/ton of cement supplement rec'd	
Unlimited Steel 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 - Asphalt Plant										
Dryer Fuel Combustion (worst case)	17.52	20.77	1.93	187.71	50.06	1.93	29.43	60,653	1.08	0.63 (hexane)
Dryer/Mixer and Batch Tower (Process)	25228.80	3547.80	212.87	69.38	94.61	6.46	315.36	29,293	6.12	2.13 (xylene)
Dryer/Mixer Slag Processing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
Hot Oil Heater Fuel Combustion (worst case)	0.01	0.03	0.03	0.00	0.44	0.02	0.37	876	0.01	0.01 (hexane)
Diesel-Fired Generator < 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
Diesel-Fired Generator > 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
Worst Case Emissions^a	25,228.81	3,547.83	212.90	187.72	95.05	6.49	315.73	61,529	6.13	2.13 (xylene)
Ducted/Ductable Emissions - Concrete Batch Mix Plant										
Hot Water Heater Fuel Combustion (worst case)	0.029	0.117	0.009	1.533	0.084	1.288	0.000	1,853	0.029	0.028 (hexane)
Material Conveying	2.02	0.74	0.74	0	0	0	0	0	0	0
Silo Loading	125.39	63.78	63.78	0	0	0	0	0	0.05	0.023 (manganese)
Weigh Hopper Loading	2.68	1.26	1.26	0	0	0	0	0	0.12	0.053 (manganese)
Truck Loading	522.97	146.12	146.12	0	0	0	0	0	0.07	1.61E-02 (manganese)
Total Ducted/Ductable Emissions	653.09	212.02	211.91	1.53	0.08	1.29	0.00	1,853	0.27	0.09 (manganese)
Fugitive Emissions - Entire Source										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.87	0.87	0.87	0	0	13.51	2.27	0.00	0.23	0.070 (formaldehyde)
Material Storage Piles	0.16	0.06	0.06	0	0	0	0	0	0	0
Material Processing and Handling	4.99	2.36	0.36	0	0	0	0	0	0	0
Material Screening and Conveying	20.53	7.19	7.19	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	1.03	0.21	0.05	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	0.00	0	0	0.00	0.00
Cold Mix Asphalt Storage Stockpiles	0	0	0	0	0	0.67	0	0	0.18	0.06 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.04	0	0	0.01	0.004 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0
Total Fugitive Emissions	27.59	10.68	8.52	0	0	14.22	2.27	0.00	0.41	0.06 (xylenes)
Totals Unlimited/Uncontrolled PTE	25,909.48	3,770.53	433.33	189.25	95.13	22.00	318.00	63,383	6.82	2.13 (xylene)

negl = negligible

* Maximum, worst case, material usage, represented by % of maximum annual concrete [batch] production, provided by the source.

^a 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
 Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.
 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: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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 Fuel Input Rate =	180	MMBtu/hr
Natural Gas Usage =	701	MMCF/yr
No. 2 Fuel Oil Usage =	5,005,714	gal/yr, and
No. 4 Fuel Oil Usage =	5,005,714	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
	0.00	% sulfur
	0.00	gr/100 ft3 sulfur
	0.00	gr/100 ft3 sulfur
	0.00	% sulfur
	0.00	% ash
	0.000	% chlorine
	0.000	% lead

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							Worse Case Fuel (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)	
PM	1.9	2.0	7.0	3.22	0.5	0.6	0.0	0.67	5.01	17.52	0.00	0.000	0.000	0.00	17.52
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	0	2.66	8.26	20.77	0.00	0.000	0.000	0.00	20.77
SO2	0.6	71.0	75.0	0.0	0.000	0.000	0.0	0.21	177.70	187.71	0.00	0.000	0.000	0.00	187.71
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	35.04	50.06	50.06	0.00	0.00	0.00	0.00	50.06
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	1.93	0.50	0.50	0.00	0.00	0.00	0.00	1.93
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	29.4336	12.51	12.51	0.00	0.00	0.00	0.00	29.43
Hazardous Air Pollutant															
HCl							0.0							0.00	0.00
Antimony			5.25E-03	5.25E-03			negl			1.31E-02	0.00E+00			negl	1.3E-02
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	7.0E-05	1.40E-03	3.30E-03	0.00E+00			0.00E+00	3.3E-03
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	4.2E-06	1.05E-03	6.96E-05	0.00E+00			negl	1.1E-03
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	3.9E-04	1.05E-03	9.96E-04	0.00E+00			0.00E+00	1.1E-03
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	4.9E-04	1.05E-03	2.11E-03	0.00E+00			0.00E+00	2.1E-03
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	2.9E-05		1.51E-02	0.00E+00			0.00E+00	1.5E-02
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0	1.8E-04	3.15E-03	3.78E-03	0.00E+00			0.00E+00	0.00
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.3E-04	2.10E-03	7.51E-03	0.00E+00			0.00E+00	0.01
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				9.1E-05	1.05E-03	2.83E-04	0.00E+00				1.1E-03
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	7.4E-04	1.05E-03	2.11E-01	0.00E+00			0.00E+00	0.211
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	8.4E-06	5.26E-03	1.71E-03	0.00E+00			negl	5.3E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						5.91E-04	0.00E+00				5.9E-04
1,3-Butadiene															0.0E+00
Acetaldehyde															0.0E+00
Acrolein															0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				7.4E-04		5.36E-04	0.00E+00				7.4E-04
Bis(2-ethylhexyl)phthalate							2.2E-03							0.00E+00	0.0E+00
Dichlorobenzene	1.2E-03						8.0E-07	4.2E-04						0.00E+00	4.2E-04
Ethylbenzene			6.36E-05	6.36E-05						1.59E-04	0.00E+00				1.6E-04
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				2.6E-02	1.53E-01	8.26E-02	0.00E+00				0.153
Hexane	1.8E+00							0.63							0.631
Phenol							2.4E-03							0.00E+00	0.0E+00
Toluene	3.4E-03		6.20E-03	6.20E-03				1.2E-03		1.55E-02	0.00E+00				1.6E-02
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		2.83E-03	0.00E+00			0.00E+00	2.8E-03
Polycyclic Organic Matter		3.30E-03							8.26E-03						8.3E-03
Xylene			1.09E-04	1.09E-04						2.73E-04	0.00E+00				2.7E-04
Total HAPs								0.66	0.18	0.36	0.00	0	0	0.00	1.08

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 (gal/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 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
 Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

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

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (< 2.5 um)
 SO2 = Sulfur Dioxide
 NOx = 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: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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 Fuel Input Rate	80	MMBtu/hr								
Natural Gas Usage	701	MMCF/yr								
No. 2 Fuel Oil Usage	5,005,714	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage	5,005,714	gal/yr, and	0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage	0	gal/yr, and	0.00	% sulfur						
Propane Usage	0	gal/yr, and	0.00	gr/100 ft3 sulfur						
Butane Usage	0	gal/yr, and	0.00	gr/100 ft3 sulfur						
Used/Waste Oil Usage	0	gal/yr, and	0.00	% sulfur	0.00	% ash	0.000	% chlorine,	0.000	% lead

Unlimited/Uncontrolled Emission:

CO2e Fraction	Emission Factor (units)							Global 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	42,104.71	56,317.81	60,452.67	0.00	0.00	0.00	0.00
CH4	0.87	2.28	2.42	0.00	0.00	0.00	0.00
N2O	0.77	0.65	0.48	0.00	0.00	0.00	0.00
Total	42,106.35	56,320.75	60,455.57	0.00	0.00	0.00	0.00

CO2e for Worst Case Fuel (tons/yr)
60,653.27

CO2e Equivalent Emissions (tons/yr)	42,362.03	56,567.53	60,653.27	0.00	0.00	0.00	0.00
--	-----------	-----------	-----------	------	------	------	------

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]
 Global 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, No. 4, and 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 5/10), Table 1.3-3

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

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

Waste Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions

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

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

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

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

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

**Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer and Batch Tower - Process Emissions**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing and the batch tower.

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

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Batch-Mix Plant (dryer, hot screens, and mixer)			Batch-Mix Plant (dryer, hot screens, and mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	32	32	32	25228.8	25228.8	0	25228.8
PM10*	4.5	4.5	4.5	3547.8	3547.8	0	3547.8
PM2.5*	0.27	0.27	0.27	212.868	212.868	0	212.9
SO2**	0.0046	0.088	0.088	3.6	69.4	0.0	69.4
NOx**	0.025	0.12	0.12	19.7	94.6	0.0	94.6
VOC**	0.0082	0.0082	0.036	6.5	6.5	0.0	6.5
CO***	0.4	0.4	0.4	315.4	315.4	0.0	315.4
Hazardous Air Pollutant							
Arsenic	4.60E-07	4.60E-07	4.60E-07	3.63E-04	3.63E-04	3.63E-04	3.63E-04
Beryllium	1.50E-07	1.50E-07	1.50E-07	1.18E-04	1.18E-04	1.18E-04	1.18E-04
Cadmium	6.10E-07	6.10E-07	6.10E-07	4.81E-04	4.81E-04	4.81E-04	4.81E-04
Chromium	5.70E-07	5.70E-07	5.70E-07	4.49E-04	4.49E-04	4.49E-04	4.49E-04
Lead	8.90E-07	8.90E-07	1.00E-05	7.02E-04	7.02E-04	7.88E-03	7.88E-03
Manganese	6.90E-06	6.90E-06	6.90E-06	5.44E-03	5.44E-03	5.44E-03	5.44E-03
Mercury	4.10E-07	4.10E-07	4.10E-07	3.23E-04	3.23E-04	3.23E-04	3.23E-04
Nickel	3.00E-06	3.00E-06	3.00E-06	2.37E-03	2.37E-03	2.37E-03	2.37E-03
Selenium	4.90E-07	4.90E-07	4.90E-07	3.86E-04	3.86E-04	3.86E-04	3.86E-04
Acetaldehyde	3.20E-04	3.20E-04	3.20E-04	0.25	0.25	0.25	0.25
Benzene	2.80E-04	2.80E-04	2.80E-04	0.22	0.22	0.22	0.22
Ethylbenzene	2.20E-03	2.20E-03	2.20E-03	1.73	1.73	1.73	1.73
Formaldehyde	7.40E-04	7.40E-04	7.40E-04	0.58	0.58	0.58	0.58
Quinone	2.70E-04	2.70E-04	2.70E-04	0.21	0.21	0.21	0.21
Toluene	1.00E-03	1.00E-03	1.00E-03	0.79	0.79	0.79	0.79
Total PAH Haps	1.10E-04	1.10E-04	2.30E-04	0.09	0.09	0.18	0.18
Xylene	2.70E-03	2.70E-03	2.70E-03	2.13	2.13	2.13	2.13
				Total HAPs	6.12		
				Worst Single HAP	2.13		(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 11.1-1, 11.1-2, 11.1-5, 11.1-6, 11.1-19, and 11.1-11

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

PM = Particulate Matter SO2 = Sulfur Dioxide CO = Carbon Monoxide PAH = Polyaromatic Hydrocarbon
 PM10 = Particulate Matter (<10 um) NOx = Nitrous Oxides HAP = Hazardous Air Pollutant
 PM2.5 = Particulate Matter (< 2.5 um) VOC = Volatile Organic Compounds HCl = Hydrogen Chloride

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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) Batch-Mix Plant (dryer/mixer)			Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Batch-Mix Plant (dryer/mixer)			CO ₂ e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO ₂	37	37	37	1	29,170.80	29,170.80	0.00	29,293.32
CH ₄	0.0074	0.0074	0.0074	21	5.83	5.83	0.00	
N ₂ O				310	0	0	0	
Total					29,176.63	29,176.63	0.00	
CO ₂ e Equivalent Emissions (tons/yr)					29,293.32	29,293.32	0.00	

Methodology

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels. Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

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

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

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

Abbreviations

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

**Appendix A Unlimited Emission Calculations
Dryer/Mixer Slag Processing**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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

Maximum Annual Blast Furnace Slag Usage = ton/yr % sulfur
 Maximum Annual Steel Slag Usage = ton/yr % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Unlimited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	0.74	0.0
Steel Slag**	0.0014	0.0

Methodology

The maximum annual slag usage was provided by the source.

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

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

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

Abbreviations

SO2 = Sulfur Dioxide

Appendix A.1: Unlimited Emissions Calculations

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Maximum Hot Oil Heater Fuel Input Rate = 1.00 MMBtu/hr
 Natural Gas Usage = 9 MMCF/yr
 No. 2 Fuel Oil Usage = 0 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	0.008	0.000	0.01
PM10/PM2.5	7.6	3.3	0.033	0.000	0.03
SO2	0.6	71.0	0.003	0.000	0.00
NOx	100	20.0	0.438	0.000	0.44
VOC	5.5	0.20	0.024	0.000	0.02
CO	84	5.0	0.368	0.000	0.37
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	8.8E-07	0.00E+00	8.8E-07
Beryllium	1.2E-05	4.2E-04	5.3E-08	0.00E+00	5.3E-08
Cadmium	1.1E-03	4.2E-04	4.8E-06	0.00E+00	4.8E-06
Chromium	1.4E-03	4.2E-04	6.1E-06	0.00E+00	6.1E-06
Cobalt	8.4E-05		3.7E-07		3.7E-07
Lead	5.0E-04	1.3E-03	2.2E-06	0.00E+00	2.2E-06
Manganese	3.8E-04	8.4E-04	1.7E-06	0.00E+00	1.7E-06
Mercury	2.6E-04	4.2E-04	1.1E-06	0.00E+00	1.1E-06
Nickel	2.1E-03	4.2E-04	9.2E-06	0.00E+00	9.2E-06
Selenium	2.4E-05	2.1E-03	1.1E-07	0.00E+00	1.1E-07
Benzene	2.1E-03		9.2E-06		9.2E-06
Dichlorobenzene	1.2E-03		5.3E-06		5.3E-06
Ethylbenzene					0.0E+00
Formaldehyde	7.5E-02	6.10E-02	3.3E-04	0.00E+00	3.3E-04
Hexane	1.8E+00		0.01		7.9E-03
Phenol					0.0E+00
Toluene	3.4E-03		1.5E-05		1.5E-05
Total PAH Haps	negl		negl		0.0E+00
Polycyclic Organic Matter		3.30E-03		0.00E+00	0.0E+00

Total HAPs = 8.3E-03 0.0E+00 0.008
Worst Single HAP = 7.9E-03 0.0E+00 7.9E-03
 (Hexane) (Formaldehyde) (Hexane)

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 5/10), 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)
 PM2.5 = Particulate Matter (<2.5 um)
 SO2 = Sulfur Dioxide
 NOx = Nitrous Oxides
 VOC = Volatile Organic Compounds
 CO = Carbon Monoxide
 HAP = Hazardous Air Pollutant
 HCl = Hydrogen Chloride
 PAH = Polyaromatic Hydrocarbon

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F 163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Maximum Hot Oil Heater Fuel Input Rate = 1.00 MMBtu/hr
 Natural Gas Usage = 8.76 MMCF/yr
 No. 2 Fuel Oil Usage = 0.00 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO2	120,161.84	22,501.41	1	526.31	0.00
CH4	2.49	0.91	21	0.01	0.00
N2O	2.2	0.26	310	0.01	0.00
				526.33	0.00

Worse Case CO2e Emissions (tons/yr)
529.53

CO2e Equivalent Emissions (tons/yr)	529.53	0.00
-------------------------------------	--------	------

Methodology

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

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

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

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

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

No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 5/10), Table 1.3-8

Emission Factor (EF) Conversions

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

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

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

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

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

Abbreviations

CO2 = Carbon Dioxide
 CH4 = Methane

N2O = Nitrogen Dioxide
 PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Hot Oil Heating System - Process Emissions**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

The following calculations determine the unlimited/uncontrolled emissions from the combustion of natural gas and No. 2 fuel oil in the hot oil heating system, which is used to heat a specially designed transfer oil. The hot transfer oil is then pumped through a piping system that passes through the asphalt cement storage tanks, in order to keep the asphalt cement at the correct temperature.

Maximum Fuel Input Rate To Hot Oil Heater = 1.00 MMBtu/hr
 Natural Gas Usage = 8.76 MMCF/yr, and
 No. 2 Fuel Oil Usage = 0.00 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE	
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	Case	PTE
VOC	2.60E-08	2.65E-05	1.14E-04	0.000		0.000
CO	8.90E-06	0.0012	0.039	0.000		0.039
Greenhouse Gas as CO2e*						
CO2	0.20	28.00	876.00	0.00		876.00
Hazardous Air Pollutant						
Formaldehyde	2.60E-08	3.50E-06	1.14E-04	0.00E+00		1.14E-04
Acenaphthene		5.30E-07		0.00E+00		0.00E+00
Acenaphthylene		2.00E-07		0.00E+00		0.00E+00
Anthracene		1.80E-07		0.00E+00		0.00E+00
Benzo(b)fluoranthene		1.00E-07		0.00E+00		0.00E+00
Fluoranthene		4.40E-08		0.00E+00		0.00E+00
Fluorene		3.20E-08		0.00E+00		0.00E+00
Naphthalene		1.70E-05		0.00E+00		0.00E+00
Phenanthrene		4.90E-06		0.00E+00		0.00E+00
Pyrene		3.20E-08		0.00E+00		0.00E+00
Total HAPs						1.14E-04
Worst Single HAP						1.14E-04 (Naphthalene)

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 No. 2 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Natural Gas: Potential to Emit (tons/yr) = (Natural Gas Usage (MMCF/yr))*(Emission Factor (lb/CF))*(1000000 CF/MMCF)*(ton/2000 lbs)
 No. 2 Fuel Oil: Potential to Emit (tons/yr) = (No. 2 Fuel Oil Usage (gals/yr))*(Emission Factor (lb/gal))*(ton/2000 lbs)
 Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 (ton/yr) x CO2 GWP (1)
 1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu
 Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Table 11.1-13

*Note: There are no emission factors for CH4 and N2O available in either 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no CH4 and N2O emission anticipated from this process.

Abbreviations

CO = Carbon Monoxide

VOC = Volatile Organic Compound

CO2 = Carbon Dioxide

**Appendix A.1: Unlimited Emissions Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Output Horsepower Rating (hp)	0.0
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	0
Maximum Diesel Fuel Usage (gal/yr)	0

	Pollutant						
	PM ²	PM10 ²	direct PM2.5 ²	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Emission Factor in lb/kgal ¹	43.07	43.07	43.07	40.13	606.85	49.22	130.77
Potential Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

¹The AP-42 Chapter 3.3-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

¹Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

²PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs ³
Emission Factor in lb/MMBtu	9.33E-04	4.09E-04	2.85E-04	3.91E-05	1.18E-03	7.67E-04	9.25E-05	1.68E-04
Emission Factor in lb/kgal ⁴	1.28E-01	5.60E-02	3.91E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Potential Emission in tons/yr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

³PAH = Polycyclic Aromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

⁴The AP-42 Chapter 3.3-1 emission factors in lb/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁴Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Potential Emission of Total HAPs (tons/yr)	0.00E+00
Potential Emission of Worst Case HAPs (tons/yr)	0.00E+00

Green House Gas Emissions (GHG)

	Pollutant		
	CO2 ⁵	CH4 ⁶	N2O ⁶
Emission Factor in lb/hp-hr	1.15	NA	NA
Emission Factor in kg/MMBtu	NA	0.003	0.0006
Emission Factor in lb/kgal	22,512.07	0.91	0.18
Potential Emission in tons/yr	0.00	0.000	0.000

⁵The AP-42 Chapter 3.3-1 emission factor in lb/hp-hr was converted to lb/kgal emission factor using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁵Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

⁶The 40 CFR 98 Subpart C emission factors in kg/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁶Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kg) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Summed Potential Emissions in tons/yr	0.00
CO2e Total in tons/yr	0.00

Methodology

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Maximum Diesel Fuel Usage (gal/yr) = Potential Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)

Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2 and have been converted to lb/kgal

CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal

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

Potential Emissions (tons/yr) = [Maximum Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 ga/kgal) / (2,000 lb/ton)

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A.1: Unlimited Emissions Calculations
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)

Company Name:
Source Address:
Permit Number:
Reviewer:

Output Horsepower Rating (hp)	0.0
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	0
Maximum Diesel Fuel Usage (gal/yr)	0

Sulfur Content (S) of Fuel (% by weight) 0.50

	Pollutant						
	PM	PM10 ²	direct PM2.5 ²	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04			4.05E-03 (.00809S)	2.40E-02	7.05E-04	5.50E-03
Emission Factor in lb/MMBtu		0.0573	0.0573				
Emission Factor in lb/kgal ¹	13.70	7.85	7.85	79.18	469.82	13.80	107.67
Potential Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

¹ The AP-42 Chapter 3.4-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

¹Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

²Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

²Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Hazardous Air Pollutants (HAPs)

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs ³
Emission Factor in lb/MMBtu	7.76E-04	2.81E-04	1.93E-04	7.89E-05	2.52E-05	7.88E-06	2.12E-04
Emission Factor in lb/kgal ⁴	1.06E-01	3.85E-02	2.64E-02	1.08E-02	3.45E-03	1.08E-03	2.91E-02
Potential Emission in tons/yr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

³PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

⁴Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁴Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Potential Emission of Total HAPs (tons/yr)	0.00E+00
Potential Emission of Worst Case HAPs (tons/yr)	0.00E+00

Green House Gas Emissions (GHG)

	Pollutant		
	CO2 ⁵	CH4 ^{5,6}	N2O ⁷
Emission Factor in lb/hp-hr	1.16	6.35E-05	NA
Emission Factor in kg/MMBtu	NA	NA	0.0006
Emission Factor in lb/kgal	22,707.83	1.24	0.18
Potential Emission in tons/yr	0.00	0.00	0.00

⁵ The AP-42 Chapter 3.4-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁵Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

⁶According to AP-42, Table 3.4-1, TOC (as CH4) is 9% methane by weight. As a result, the lb/hp-hr emission factor for TOC (as CH4) in AP-42 has been multiplied by 9% to determine the portion that is emitted as methane.

⁷The 40 CFR 98 Subpart C emission factors in kg/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁷Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kg) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Summed Potential Emissions in tons/yr	0.00
CO2e Total in tons/yr	0.00

Methodology

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Maximum Diesel Fuel Usage (gal/yr) = Potential Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 and have been converted to lb/kgal.

N2O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal.

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

Potential Emissions (tons/yr) = [Maximum Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 gal/kgal) / (2,000 lb/ton)

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O

Potential Emission ton/yr x N2O GWP (310).

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	1,576,800	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.41	0.46	NA	0.87
Organic PM	3.4E-04	2.5E-04	NA	0.27	0.200	NA	0.47
TOC	0.004	0.012	0.001	3.28	9.61	0.867	13.8
CO	0.001	0.001	3.5E-04	1.06	0.930	0.278	2.27

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

PM/HAPs	0.019	0.023	0	0.042
VOC/HAPs	0.048	0.122	0.013	0.183
non-VOC/HAPs	2.5E-04	2.6E-05	6.7E-05	3.5E-04
non-VOC/non-HAPs	0.24	0.14	0.06	0.44

Total VOCs	3.08	9.61	0.8	13.5
Total HAPs	0.07	0.14	0.013	0.23
Worst Single HAP				0.070
				(formaldehyde)

Methodology

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Abbreviations

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

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	7.0E-04	9.4E-04	NA	1.6E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	7.5E-05	2.8E-05	NA	1.0E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.9E-04	2.6E-04	NA	4.5E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	5.1E-05	1.1E-04	NA	1.6E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	2.0E-05	0	NA	2.0E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	5.9E-06	0	NA	5.9E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	5.1E-06	0	NA	5.1E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	6.2E-06	0	NA	6.2E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	2.1E-05	1.9E-05	NA	4.0E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	2.8E-04	4.2E-04	NA	7.0E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	9.9E-07	0	NA	9.9E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.3E-04	0	NA	1.3E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	2.1E-03	2.0E-03	NA	4.1E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.3E-06	0	NA	1.3E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	6.4E-03	1.1E-02	NA	0.017
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	3.4E-03	3.6E-03	NA	7.0E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	5.9E-05	6.0E-05	NA	1.2E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	2.2E-03	3.6E-03	NA	5.8E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	4.0E-04	8.8E-04	NA	1.3E-03
Total PAH HAPs							0.016	0.023	NA	0.038
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	3.2E-03	0	0	3.2E-03

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

Methodology

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

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

Abbreviations

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	3.08	9.61	0.82	13.51
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	2.1E-01	2.5E-02	5.6E-02	0.294
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.5E-03	5.3E-03	4.0E-04	0.007
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	2.3E-02	1.1E-01	6.2E-03	0.135
Total non-VOC/non-HAPS					7.30%	1.40%	0.239	0.135	0.063	0.44
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.7E-03	3.1E-03	4.5E-04	5.2E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	3.1E-04	4.7E-04	8.3E-05	8.7E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.6E-03	3.7E-03	4.2E-04	5.8E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	4.3E-04	1.5E-03	1.1E-04	2.1E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	6.9E-06	3.8E-04	1.8E-06	3.9E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	4.9E-04	2.2E-03	1.3E-04	2.8E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	3.6E-03	0	9.5E-04	4.6E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	9.2E-03	3.7E-03	2.4E-03	0.015
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	2.9E-03	6.6E-02	7.6E-04	0.070
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	4.9E-03	9.6E-03	1.3E-03	0.016
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	5.9E-05	3.0E-05	1.6E-05	1.0E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.6E-05	0	2.6E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	2.4E-04	5.2E-04	6.3E-05	8.2E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.5E-04	0	6.7E-05	3.2E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	6.9E-03	6.0E-03	1.8E-03	0.015
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	4.3E-05	0	1.1E-05	5.4E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.3E-02	1.9E-02	3.6E-03	0.036
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.6E-03	5.5E-03	6.9E-04	8.8E-03
Total volatile organic HAPs					1.50%	1.30%	0.049	0.125	0.013	0.187

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: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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	0.10	0.055	0.019
Limestone	1.6	1.85	0.27	0.091	0.032
RAP	0.5	0.58	0.05	0.005	0.002
Gravel	1.6	1.85	0.04	0.014	0.005
Shingles	0.5	0.58	0.00	0.000	0.000
Slag	3.8	4.40	0.00	0.000	0.000
Totals				0.16	0.06

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.

PM2.5 = PM10

Abbreviations

RAP - recycled asphalt pavement

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

**Appendix A Unlimited Emission Calculations
Material Processing, Handling, Crushing, Screening, and Conveying**

Company Name:
Source Address:
Permit Number:
Reviewer:

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)
Ef (PM) =	2.27E-03	lb PM/ton of material handled
Ef (PM10) =	1.07E-03	lb PM10/ton of material handled
Ef (PM2.5) =	1.62E-04	lb PM2.5/ton of material handled

Maximum Annual Asphalt Production = 1,576,800 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 7.0%
 Maximum Material Handling Throughput = 1,466,424 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	1.66	0.79	0.12
Front-end loader dumping of materials into feeder bins	1.66	0.79	0.12
Conveyor dropping material into dryer/mixer or batch tower	1.66	0.79	0.12
Total (tons/yr)	4.99	2.36	0.36

Methodology

The percent asphalt cement/binder provided by the source.
 Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
 Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives
 *Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 11.19.2)

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Screening	0.025	0.0087	18.33	6.38
Conveying	0.003	0.0011	2.20	0.81
Unlimited Potential to Emit (tons/yr) =			20.53	7.19

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 Unlimited Emission Calculations
Unpaved Roads**

Company Name:
Source Address:
Permit Number:
Reviewer:

Unpaved Roads at Industrial Site

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

Maximum Annual Asphalt Production	1,576,800	tons/yr
Percent Asphalt Cement/Binder (weight %)	7.0%	
Maximum Material Handling Throughput	1,466,424	tons/yr
Maximum Asphalt Cement/Binder Throughput	110,376	tons/yr
Maximum No. 2 Fuel Oil Usage	5,005,714	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.0	22.4	22.4	6.5E+04	1.5E+06	0	0.000	0.0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.0	0	0.0	6.5E+04	0.0E+00	0	0.000	0.0
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.0	36.0	36.0	3.1E+03	1.1E+05	0	0.000	0.0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.0	0	0.0	3.1E+03	0.0E+00	0	0.000	0.0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.0	32.0	32.0	5.3E+02	1.7E+04	0	0.000	0.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.0	0	0.0	5.3E+02	0.0E+00	0	0.000	0.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.0	4.2	4.2	3.5E+05	1.5E+06	0	0.000	0.0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.0	0	0.0	3.5E+05	0.0E+00	0	0.000	0.0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.0	24.0	24.0	6.6E+04	1.6E+06	0	0.000	0.0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.0	0	0.0	6.6E+04	0.0E+00	0	0.000	0.0
Total					9.7E+05	4.6E+06	0	0.000	0.0E+00

Average Vehicle Weight Per Trip = $\frac{4.8}{0.000}$ tons/trip
Average Miles Per Trip = $\frac{0.000}{0.000}$ 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 =	4.8	4.8	4.8	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f =	3.19	0.81	0.08	lb/mile
Mitigated Emission Factor, E_{ext} =	2.09	0.53	0.05	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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) PTE = Potential to Emit

Appendix A Unlimited Emission Calculations
Paved Roads

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Paved Roads at Industrial Site

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

Maximum Annual Asphalt Production	=	1,576,800	tons/yr
Percent Asphalt Cement/Binder (weight %)	=	7.0%	
Maximum Material Handling Throughput	=	1,466,424	tons/yr
Maximum Asphalt Cement/Binder Throughput	=	110,376	tons/yr
Maximum No. 2 Fuel Oil Usage	=	5,005,714	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 (14 CY)	14.5	20.0	34.50	7.3E+04	2.5E+06	330	0.063	4582.6
Aggregate/RAP Truck Leave Empty	Dump truck (14 CY)	14.5	0	14.50	7.3E+04	1.1E+06	330	0.063	4582.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	15.0	25.0	40.00	4.4E+03	1.8E+05	117	0.022	97.8
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	15.0	0	15.00	4.4E+03	6.6E+04	117	0.022	97.8
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	15.0	25.0	40.00	6.8E+02	2.7E+04	117	0.022	15.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	15.0	0	15.00	6.8E+02	1.0E+04	117	0.022	15.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	11.0	3.0	14.00	4.9E+05	6.8E+06	145	0.027	13423.7
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	11.0	0	11.00	4.9E+05	5.4E+06	145	0.027	13423.7
Asphalt Concrete Truck Leave Full	Dump truck (14 CY)	14.5	20.0	34.50	7.9E+04	2.7E+06	125	0.024	1866.5
Asphalt Concrete Truck Enter Empty	Dump truck (14 CY)	14.5	0	14.50	7.9E+04	1.1E+06	125	0.024	1866.5
Total					1.3E+06	2.0E+07			4.0E+04

Average Vehicle Weight Per Trip = 15.4 tons/trip
Average Miles Per Trip = 0.031 miles/trip

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

where k =	PM	PM10	PM2.5	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	0.011	0.0022	0.00054	tons = average vehicle weight (provided by source)
sL =	15.4	15.4	15.4	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)
	0.6	0.6	0.6	

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

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

Unmitigated Emission Factor, E_f =	PM	PM10	PM2.5	lb/mile
Mitigated Emission Factor, E_{ext} =	0.11	0.02	0.01	lb/mile
Dust Control Efficiency =	0.10	0.02	0.01	(pursuant to control measures outlined in fugitive dust control plan)
	50%	50%	50%	

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.26	0.05	0.01	0.24	0.05	0.01	0.12	0.02	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.26	0.05	0.01	0.24	0.05	0.01	0.12	0.02	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.006	0.001	2.7E-04	0.005	0.001	2.5E-04	0.003	5.0E-04	1.2E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.006	0.001	2.7E-04	0.005	0.001	2.5E-04	0.003	5.0E-04	1.2E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	8.5E-04	1.7E-04	4.1E-05	7.7E-04	1.5E-04	3.8E-05	3.9E-04	7.7E-05	1.9E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	8.5E-04	1.7E-04	4.1E-05	7.7E-04	1.5E-04	3.8E-05	3.9E-04	7.7E-05	1.9E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.76	0.15	0.04	0.69	0.14	0.03	0.35	0.07	0.02
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.76	0.15	0.04	0.69	0.14	0.03	0.35	0.07	0.02
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.11	0.02	0.01	0.10	0.02	0.00	0.05	0.01	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.11	0.02	0.01	0.10	0.02	0.00	0.05	0.01	0.00
Totals		2.25	0.45	0.11	2.06	0.41	0.10	1.03	0.21	0.05

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) PTE = Potential to Emit

**Appendix A Unlimited Emission Calculations
Cold Mix Asphalt Production and Stockpiles**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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

Maximum Annual Asphalt Production =	1,576,800	tons/yr
Percent Asphalt Cement/Binder (weight %) =	0.0%	
Maximum Asphalt Cement/Binder Throughput =	0	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%	0.0	0.0
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	0.0	0.0
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	0.0	0.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	0.0	0.0
Other asphalt with solvent binder	25.9%	2.5%	0.0	0.0
Worst Case PTE of VOC =				0.0

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
PTE of Total HAPs (tons/yr) =	0.00
PTE of Single HAP (tons/yr) =	0.00 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.

Abbreviations

VOC = Volatile Organic Compounds
 PTE = Potential to Emit

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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 storage stockpiles.

Maximum Annual Cold-mix Asphalt Storage Stockpile Throughput = 40.0 tons/yr
 Percent Asphalt Cement/Binder (weight %) Content = 7%
 Maximum Annual Asphalt Cement/Binder Throughput = 2.80 tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Content (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	0.71	0.67
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	0.80	0.56
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	0.56	0.14
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	0.42	0.19
Other asphalt with solvent binder	25.9%	2.5%	0.73	0.02
Worst Case PTE of VOC =				0.67

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) =	0.18
PTE of Single HAP (tons/yr) =	0.06 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 Annual Asphalt Cement/Binder Throughput = [Maximum Cold-mix Asphalt Storage Stockpile Throughput (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]

Maximum Annual VOC Solvent Content (tons/yr) = [Maximum Annual Asphalt Cement/Binder Content (tons/yr)] * [Maximum Weight % of VOC Solvent in Binder]

PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [Maximum VOC Solvent Content (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/tpH.htm>

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Appendix A Unlimited Emission Calculations
Gasoline Fuel Transfer and Dispensing Operation**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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:

$$\begin{aligned} \text{Gasoline Throughput} &= \frac{75}{27.4} \text{ gallons/day} \\ &= \text{kgal/yr} \end{aligned}$$

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	0.01
Vehicle refueling (displaced losses - controlled)	1.1	0.02
Spillage	0.7	0.01
Total		0.04

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) =	0.01
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.

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

Appendix A Unlimited Emission Calculations
Hot Water Heater: Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Maximum Hot Water Heater Fuel Input Rate = 3.50 MMBtu/hr
 Natural Gas Usage = 30.66 MMCF/yr

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Hot Water Heater	Hot Water Heater	
	Natural Gas (lb/MMCF)	Natural Gas (tons/yr)	Total Emissions (tons/yr)
PM	1.9	0.029	0.03
PM10/PM2.5	7.6	0.117	0.12
SO2	0.6	0.009	0.01
NOx	100	1.533	1.53
VOC	5.5	0.084	0.08
CO	84	1.288	1.29
Hazardous Air Pollutant			
Arsenic	2.0E-04	3.1E-06	3.1E-06
Beryllium	1.2E-05	1.8E-07	1.8E-07
Cadmium	1.1E-03	1.7E-05	1.7E-05
Chromium	1.4E-03	2.1E-05	2.1E-05
Cobalt	8.4E-05	1.3E-06	1.3E-06
Lead	5.0E-04	7.7E-06	7.7E-06
Manganese	3.8E-04	5.8E-06	5.8E-06
Mercury	2.6E-04	4.0E-06	4.0E-06
Nickel	2.1E-03	3.2E-05	3.2E-05
Selenium	2.4E-05	3.7E-07	3.7E-07
Benzene	2.1E-03	3.2E-05	3.2E-05
Dichlorobenzene	1.2E-03	1.8E-05	1.8E-05
Ethylbenzene			0
Formaldehyde	7.5E-02	1.1E-03	1.1E-03
Hexane	1.8E+00	0.03	0.028
Phenol			0
Toluene	3.4E-03	5.2E-05	5.2E-05
Total PAH Haps	negl	negl	0
Polycyclic Organic Matter			0
Total HAPs			0.029

Methodology

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

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

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 the
Hot Water Heater: Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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

Maximum Hot Water Heater Fuel Input Rate = 3.50 ton/hr
 Natural Gas Usage = 30.66 ton/yr

Criteria Pollutant	Emission Factor (lbs/MMBtu)	Global warming potential	Unlimited/Uncontrolled Potential to Emit (tons/yr)
CO ₂	120,161.84	1	1,842.08
CH ₄	2.49	21	0.04
N ₂ O	2.2	310	0
Total			1,842.15

CO₂e Equivalent Emissions (tons/yr)	1,853.34
---	-----------------

Methodology

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels. Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

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

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

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

Abbreviations

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

**Appendix A Unlimited Emission Calculations
Concrete Dry Batching Operations
Particulate Emissions from Material Processing, Handling, and Conveying**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Material Processing and Handling (AP 42 Section 11.12)

Maximum Annual Concrete Production =	1,051,200	tons/yr
Maximum Annual Aggregate Usage =	497,937	tons/yr
Maximum Annual Sand Usage =	846,800	tons/yr
Maximum Annual Cement Usage =	191,127	tons/yr
Maximum Annual Cement supplement Usage =	36,041	tons/yr

Type of Activity	Uncontrolled Emission Factor for PM (lbs/ton)	Uncontrolled Emission Factor for PM10/PM2.5 (lbs/ton)	Unlimited PTE of PM (tons/yr)	Unlimited PTE of PM10* (tons/yr)
Fugitive Emissions				
Aggregate delivery to ground Storage (3-05-011-21) ^{1, α}	0.0023	0.0011	0.56	0.27
Aggregate transfer to conveyor (3-05-011-23) ^{1, α}	0.0023	0.0011	0.56	0.27
Sand delivery to ground storage (3-05-011-22) ^{1, β}	0.0023	0.0011	0.96	0.45
Sand transfer to conveyor (3-05-011-24) ^{1, β}	0.0023	0.0011	0.96	0.45
Subtotal			3.05	1.44
Ducted/Ductable Emissions				
Aggregate transfer to elevated storage (3-05-011-04) ^{1, α}	0.0023	0.0011	0.56	0.27
Sand transfer to elevated storage (3-05-011-05) ^{1, β}	0.0023	0.0011	0.96	0.45
Cement delivery to silo (pneumatic) (3-05-011-07) ^{2, χ}	0.72	0.4600	68.81	43.96
Cement supplement delivery to silo (pneumatic) (3-05-011-17) ^{2, δ}	3.14	1.1000	56.58	19.82
Weigh hopper loading (3-05-011-08) ^{2, ε}	0.0051	0.0024	2.68	1.26
Truck Loading (truck-mix) (3-05-011-10) ^{2, ε}	0.995	0.2780	522.97	146.12
Subtotal			652.57	211.88
Total Potential to Emit (tons/yr) =			655.62	213.32

Methodology

Maximum Material Usage (tons/yr) provided by the source.

* In the absence of valid AP 42 emission factors, it is assumed that PM2.5 emissions = PM10 emissions

¹ Emission factors for Aggregate and Sand Handling, calculated using AP-42 Section 13.2.4 (fifth edition, updated 11/06) equation #1, page 13.2.4-4.

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

where: k = particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um and 0.35 assumed for aerodynamic diameter <=10 um)

U = worst case annual mean wind speed (Source: NOAA, 2006*)

M = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)

² To estimate potential fugitive dust emissions from material processing and handling, AP-42 emission factors for Concrete Batching Truck-Mix Operations, Section 11.12 (dated 6/06), Table 11.12-5 are utilized.

α Unlimited Potential to Emit (tons/yr) = (Maximum Aggregate Usage (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

β Unlimited Potential to Emit (tons/yr) = (Maximum Sand Usage (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

χ Unlimited Potential to Emit (tons/yr) = (Maximum Cement Usage (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

δ Unlimited Potential to Emit (tons/yr) = (Maximum Cement Supplement Usage (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

ε Unlimited Potential to Emit (tons/yr) = (Maximum Hourly Concrete Production rate (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Raw materials used in the production of ready-mix concrete may include limestone, sand, cement, and cement supplements.

> Cement supplements may include both mineral and chemical admixtures.

Mineral admixtures, may include fly ash, silica fume, natural pozzolans, and ground granulated blast-furnace slag.

Chemical admixtures are added to the mix, in very small amounts, immediately before or during mixing, and may include air-entrainers, water-reducers, set retarders, set accelerators, and plasticizers (superplasticizers). All other varieties of admixtures fall into the specialty category whose functions include corrosion inhibition, shrinkage reduction, alkali-silica reactivity reduction, workability enhancement, bonding, damp proofing, and coloring.

Material Conveying (AP-42 Section 11.19.2)

Maximum Material Usage = 1,344,737 tons/yr

Operation	Uncontrolled Emission Factor for PM (lbs/ton)	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited PTE of PM (tons/yr)	Unlimited PTE of PM10/PM2.5 ^α (tons/yr)
Ducted/Ductable Emissions				
Conveying ¹	0.003	0.0011	2.02	0.74
Limited Potential to Emit (tons/yr) =			2.02	0.74

Methodology

Maximum Material Usage (tons/yr) provided by the source.

^α In the absence of valid AP 42 emission factors, it is assumed that PM2.5 emissions = PM10 emissions

¹ To estimate potential fugitive dust emissions from raw material conveying, AP-42 emission factors for Crushed Stone Processing Operations, Chapter 11.19.2 (dated 8/04), Table 11.19.2-2 are utilized.

Maximum Material Usage (tons/yr) = [Maximum Aggregate Usage (tons/yr) + Maximum Sand Usage (tons/yr)]

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

Raw materials being conveyed include aggregates and sand.

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

**Appendix A Unlimited Emission Calculations
Concrete Dry Batching Operations
HAPs Emissions from Material Processing and Handling**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Material Processing and Handling (AP 42 Section 11.12)

Maximum Annual Concrete Production = 1,051,200 tons/yr
 Maximum Annual Cement/Cement Supplement Usage * = 227,168 tons/yr

	Worst Case HAP Emission Factor ¹ (Manganese)	Total HAPs ² Emission Factor (lb/ton)	PTE Worst Case HAP (Manganese)	PTE Total HAPs ³ (tons/yr)
Ducted/Ductable Emissions				
Cement delivery to Silo (3-05-011-07) ^{a,β}	1.01E-04	2.34E-04	0.011	0.027
Cement supplement delivery to Silo (3-05-011-17 controlled) ^{a,β}	1.01E-04	2.34E-04	0.011	0.027
Weigh hopper loading ^{γ,δ}	1.01E-04	2.34E-04	0.053	0.123
Truck Loading (truck-mix) (3-05-011-10) ^{γ,δ}	3.06E-05	1.32E-04	0.016	0.070
Total Potential to Emit HAPs (tons/yr) =			0.09	0.25

Methodology

* Cement supplements may include both mineral and chemical admixtures.

Mineral admixtures, may include fly ash, silica fume, natural pozzolans, and ground granulated blast-furnace slag.

Chemical admixtures are added to the mix, in very small amounts, immediately before or during mixing, and may include air-entrainers, water-reducers, set retarders, set accelerators, and plasticizers (superplasticizers). All other varieties of admixtures fall into the specialty category whose functions include corrosion inhibition, shrinkage reduction, alkali-silica reactivity reduction, workability enhancement, bonding, damp proofing, and coloring.

¹ Worst Case HAP Emission Factors

Because there were no HAP emission factors available in AP-42 for the weigh hopper loading, 1.01E-04 lb/ton is used as a worst-case scenario.

² To estimate potential hazardous air pollutant emissions from material processing and handling, AP-42 emission factors for Concrete Batching Operations, Section 11.12 (dated 6/06), Table 11.12-8 are utilized.

The emission factor, 2.34E-04 lb/ton, shown above is the sum of all the uncontrolled metal emission factors for cement silo filling provided in AP-42.

The emission factor, 1.32E-04 lb/ton, shown above is the sum of all the uncontrolled metal emission factors for truck loading provided in AP-42.

Because there were no HAP emission factors available in AP-42 for the weigh hopper loading, 2.34E-04 lb/ton is used as a worst-case scenario.

³ The HAPs being accounted for in the "TOTAL" are metal HAPs and include Arsenic, Beryllium, Cadmium, Total Chromium, Lead, Manganese, Nickel, Total Phosphorus, and Selenium.

^a PTE Worst Case HAP (tons/yr) = Maximum Annual Combined Cement/Cement Supplement Usage (tons/yr) * Manganese Emission Factor (lb/ton) * 1 ton/2,000 lbs

^β PTE Total HAPs (tons/yr) = Maximum Annual Combined Cement/Cement Supplement Usage (tons/yr) * Total HAPs Emission Factor (lb/ton) * 1 ton/2,000 lbs

^γ PTE Worst Case HAP (tons/yr) = Maximum Annual Concrete Production (tons/yr) * Manganese Emission Factor (lb/ton) * 8,760 hrs/yr * 1 ton/2,000 lbs

^δ PTE Total HAPs (tons/yr) = Maximum Annual Concrete Production (tons/yr) * Total HAPs Emission Factor (lb/ton) * 1 ton/2,000 lbs

Abbreviations

PM = Particulate Matter

PM2.5 = Particulate Matter (<2.5 um)

PM10 = Particulate Matter (<10 um)

PTE = Potential to Emit

**Appendix A Unlimited Emission Calculations
Concrete Dry Batching Operations
Paved Roads**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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 Concrete Production	1,051,200	tons/yr
Maximum Annual Aggregate/Sand Usage	1,344,737	tons/yr
Maximum Annual Cement/Cement Supplement Usage	227,168	tons/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/Sand Truck Enter Full	Dump truck (16 CY)	17.0	20.0	37.0	6.7E+04	2.5E+06	300	0.057	3,820.3
Aggregate/Sand Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	6.7E+04	1.1E+06	300	0.057	3,820.3
Cement/Cement Supplement Truck Enter Full	Tanker truck (6000 gal)	12.0	25.0	37.0	9.1E+03	3.4E+05	350	0.066	602.3
Cement/Cement Supplement Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	9.1E+03	1.1E+05	350	0.066	602.3
Aggregate/Sand Loader Full	Front-end loader (3 CY)	9.0	3.0	12.0	4.5E+05	5.4E+06	100	0.019	8,489.5
Aggregate/Sand Loader Empty	Front-end loader (3 CY)	9.0	0	9.0	4.5E+05	4.0E+06	100	0.019	8,489.5
Concrete Truck Leave Full	Dump truck (16 CY)	15.0	20.0	35.0	5.3E+04	1.8E+06	350	0.066	3,484.1
Concrete Truck Enter Empty	Dump truck (16 CY)	15.0	0	15.0	5.3E+04	7.9E+05	350	0.066	3,484.1
Total					1.2E+06	1.6E+07			3.3E+04

Average Vehicle Weight Per Trip	14.0	tons/trip
Average Miles Per Trip	0.028	miles/trip

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

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	14.0	14.0	14.0	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, $E_{ext} = E_f * [1 - (p/4N)]$

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f	0.38	0.07	0.01	lb/mile
Mitigated Emission Factor, E_{ext}	0.34	0.07	0.01	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/Sand Truck Enter Full	Dump truck (16 CY)	0.72	0.14	0.02	0.66	0.13	0.02	0.33	0.06	0.01
Aggregate/Sand Truck Leave Empty	Dump truck (16 CY)	0.72	0.14	0.02	0.66	0.13	0.02	0.33	0.06	0.01
Cement/Cement Supplement Truck Enter Full	Tanker truck (6000 gal)	0.113	0.022	3.2E-03	0.104	0.020	2.9E-03	0.052	1.0E-02	1.5E-03
Cement/Cement Supplement Truck Leave Empty	Tanker truck (6000 gal)	0.113	0.022	3.2E-03	0.104	0.020	2.9E-03	0.052	1.0E-02	1.5E-03
Aggregate/Sand Loader Full	Front-end loader (3 CY)	1.60	0.31	0.05	1.46	0.28	0.04	0.73	0.14	0.02
Aggregate/Sand Loader Empty	Front-end loader (3 CY)	1.60	0.31	0.05	1.46	0.28	0.04	0.73	0.14	0.02
Concrete Truck Leave Full	Dump truck (16 CY)	0.66	0.13	0.019	0.60	0.12	0.017	0.30	0.06	0.008
Concrete Truck Enter Empty	Dump truck (16 CY)	0.66	0.13	0.019	0.60	0.12	0.017	0.30	0.06	0.008
Totals		6.17	1.20	0.17	5.64	1.09	0.16	2.82	0.55	0.08

Methodology

Maximum Material (Usage) Throughput (tons/yr) provided by the source
 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)
 PM2.5 = PM10

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
Hot-Mix Asphalt Plant and Ready-Mix Concrete Plant, Combined
Entire Source Summary**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Asphalt Plant Limitations		Concrete Batch Plant Limitations	
Maximum Hourly Asphalt Production	180 ton/hr	Maximum Hourly Concrete Production	60 cubic yards/hr
Annual Asphalt Production Limitation	200,000 ton/yr	Maximum Hourly Concrete Production	120 ton/hr
Blast Furnace Slag Usage Limitation	0 ton/yr	Annual Concrete Production Limitation	75,000 cubic yards/year
Steel Slag Usage Limitation	0 ton/yr	Annual Concrete Production Limitation	150,000 tons/yr
Maximum Dryer Fuel Input Rate	80 MMBtu/hr	Aggregate throughput limitation *	497,937 tons/yr
Natural Gas Limitation	701 MMCF/yr	Sand throughput limitation *	846,800 tons/yr
No. 2 Fuel Oil Limitation	1,376,571 gal/yr, and 0.50% sulfur	Cement throughput limitation **	27,273 tons/yr
No. 4 Fuel Oil Limitation	1,376,571 gal/yr, and 0.50% sulfur	Cement supplement throughput limitation **	20,000 tons/yr
Residual (No. 5 or No. 6) Fuel Oil Limitation	0 gal/yr, and 0% sulfur	Maximum Hot Water Heater Fuel Input Rate	3.50 MMBtu/hr
Propane Limitation	0 gal/yr, and 0 gr/100 ft3 sulfur	Natural Gas Usage	30.66 MMCF/yr
Butane Limitation	0 gal/yr, and 0 gr/100 ft3 sulfur		
Used/Waste Oil Limitation	0 gal/yr, and 0% sulfur		
Diesel Fuel Limitation - Generator < 600 HP	0 gal/yr, and 0% ash		
Diesel Fuel Limitation - Generator > 600 HP	0 gal/yr, and 0% chlorine		
	0% lead		
	0.00% sulfur		
PM Dryer/Mixer Limitation	0.500 lb/ton of asphalt production	PM Concrete Production/Truck Loading Limitation	0.995 lb/ton of concrete production
PM10 Dryer/Mixer Limitation	0.387 lb/ton of asphalt production	PM10/PM2.5 Concrete Production/Truck Loading Limitation	0.278 lb/ton of concrete production
PM2.5 Dryer/Mixer Limitation	0.387 lb/ton of asphalt production	PM Cement Handling Limitation	0.72 lb/ton of cement received
CO Dryer/Mixer Limitation	0.4 lb/ton of asphalt production	PM10/PM2.5 Cement Handling Limitation	0.46 lb/ton of cement received
VOC Dryer/Mixer Limitation	0.008 lb/ton of asphalt production	PM Cement Supplement Handling Limitation	3.14 lb/ton of cement supplement received
Blast Furnace Slag SO2 Dryer/Mixer Limitation	0.000 lb/ton of slag processed	PM10/PM2.5 Cement Supplement Handling Limitation	1.10 lb/ton of cement supplement received
Steel Slag SO2 Dryer/Mixer Limitation	0.0000 lb/ton of slag processed		
Cold Mix Asphalt VOC Usage Limitation	92.0 tons/yr		
HCl Limitation	0 lb/kgal		

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO ₂ e	Total HAPs	Worst Case HAP
Ducted Emissions - Asphalt Plant										
Dryer Fuel Combustion (worst case)	4.82	5.71	5.71	51.62	35.04	1.93	29.43	42,362	0.75	0.63 (hexane)
Dryer/Mixer and Batch Tower (Process)	50.00	38.70	38.70	8.80	12.00	0.80	40.00	3,716	0.78	0.27 (xylene)
Dryer/Mixer Slag Processing	0	0	0	0.00	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion	0.01	0.03	0.03	0.00	0.44	0.02	0.37	876	0.01	0.008 (hexane)
Diesel-Fired Generator < 600 HF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.000	0.000
Diesel-Fired Generator > 600 HF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.000	0.000
Worst Case Emissions^a	50.01	38.73	38.73	51.62	35.48	1.95	40.37	43,238	0.78	0.63 (xylene)
Ducted/Ductable Emissions - Concrete Batch Mix Plant										
Hot Water Heater Fuel Combustion	0.03	0.12	0.12	0.01	1.53	0.08	1.29	1,853	0.029	0.028 (hexane)
Material Conveying	2.02	0.74	0.74	0	0	0	0	0	0	0
Silo Loading	41.22	17.27	17.27	0	0	0	0	0	0.01	0.005 (manganese)
Weigh Hopper Loading	0.38	0.18	0.18	0	0	0	0	0	0.02	0.008 (manganese)
Truck Loading	74.63	20.85	20.85	0	0	0	0	0	0.010	0.0007 (manganese)
Total Ducted/Ductable Emissions	118.27	39.16	39.16	0.01	1.53	0.08	1.29	1,853	0.07	0.028 (hexane)
Fugitive Emissions - Entire Source										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.11	0.11	0.11	0	0	1.71	0.29	0	0.03	0.01 (formaldehyde)
Material Storage Piles	0.16	0.06	0.06	0	0	0	0	0	0	0
Material Processing and Handling	0.65	0.31	0.05	0	0	0	0	0	0	0
Material Screening and Conveying	2.66	0.93	0.93	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	0.13	0.03	0.01	0	0	0	0	0	0	0
Cold-Mix Asphalt Production	0	0	0	0	0	0.00	0	0	0.00	0.00
Cold-Mix Asphalt Storage Stockpiles	0	0	0	0	0	0.67	0	0	0.18	0.06 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.01	0	0	0.01	3.82E-03 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	negl	negl	negl
Total Fugitive Emissions	3.71	1.43	1.15	0	0	2.40	0.29	0	0.22	0.06 (xylenes)
Totals Limited/Controlled Emissions	171.99	79.32	79.04	51.63	37.01	4.43	41.94	45,091	1.07	0.70 (xylenes)

negl = negligible

^a Maximum, unlimited, worst case, material usage, represented by % of maximum annual concrete [batch] production, provided by the source.

^{**} Limited worst case material usage, represented by % of limited annual concrete [batch] production, provided by the source.

^a 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

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

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: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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.

Fuel Limitations

Maximum Fuel Input Rate =	80	MMBtu/hr																	
Natural Gas Limitation =	701	MMCF/yr																	
No. 2 Fuel Oil Limitation =	1,376,571	gal/yr, and		0.50	% sulfur														
No. 4 Fuel Oil Limitation =	1,376,571	gal/yr, and		0.50	% sulfur														
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and		0.00	% sulfur														
Propane Limitation =	0	gal/yr, and		0.00	gr/100 ft3 sulfur														
Butane Limitation =	0	gal/yr, and		0.00	gr/100 ft3 sulfur														
Used/Waste Oil Limitation =	0	gal/yr, and		0.00	% sulfur	0.00	% ash	0.000	% chlorine,	0.000	% lead								

Limited Emissions

Criteria Pollutant	Emission Factor (units)							Limited Potential to Emit (tons/yr)							Worst Case Fuel (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)	
PM	1.9	2.0	7.0	3.22	0.5	0.6	0.0	0.67	1.38	4.82	0.00	0.000	0.000	0.00	4.82
PM10/PM2.5	7.6	3.3	6.3	4.72	0.5	0.6	0	2.66	2.27	5.71	0.00	0.000	0.000	0.00	5.71
SO2	0.6	71.0	75.0	0.0	0.00	0.00	0.0	0.21	48.87	51.62	0.00	0.000	0.000	0.00	51.62
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	35.04	13.77	13.77	0.00	0.00	0.00	0.00	35.04
VOC	5.5	0.20	0.20	0.28	1.0	1.10	1.0	1.93	0.14	0.14	0.00	0.00	0.00	0.00	1.93
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	29.43	3.44	3.44	0.00	0.00	0.00	0.00	29.43
Hazardous Air Pollutant															
HCl							0.0							0.00	0.00
Antimony			5.25E-03	5.25E-03			negl			3.61E-03	0.00E+00			negl	3.6E-03
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	7.0E-05	3.89E-04	9.09E-04	0.00E+00			0.00E+00	9.1E-04
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	4.2E-06	2.89E-04	1.91E-05	0.00E+00			negl	2.9E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	3.9E-04	2.89E-04	2.74E-04	0.00E+00			0.00E+00	3.9E-04
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	4.9E-04	2.89E-04	5.82E-04	0.00E+00			0.00E+00	5.9E-04
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	2.9E-05		4.14E-03	0.00E+00			0.00E+00	4.1E-03
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0	1.8E-04	8.67E-04	1.04E-03	0.00E+00			0.0E+00	0.00
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.3E-04	5.78E-04	2.06E-03	0.00E+00			0.00E+00	0.00
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				9.1E-05	2.89E-04	7.78E-05	0.00E+00				2.9E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	7.4E-04	2.89E-04	5.82E-02	0.00E+00			0.00E+00	0.058
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	8.4E-06	1.45E-03	4.70E-04	0.00E+00			negl	1.4E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						1.62E-04	0.00E+00				1.6E-04
1,3-Butadiene															0.0E+00
Acetaldehyde															0.0E+00
Acrolein															0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				7.4E-04		1.47E-04	0.00E+00				7.4E-04
Bis(2-ethylhexyl)phthalate							2.2E-03							0.00E+00	0.0E+00
Dichlorobenzene	1.2E-03						8.0E-07	4.2E-04						0.00E+00	4.2E-04
Ethylbenzene			6.36E-05	6.36E-05						4.38E-05	0.00E+00				4.4E-05
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				2.6E-02	4.20E-02	2.27E-02	0.00E+00				0.042
Hexane	1.8E+00							0.63							0.631
Phenol							2.4E-03							0.00E+00	0.0E+00
Toluene	3.4E-03		6.20E-03	6.20E-03				1.2E-03		4.27E-03	0.00E+00				4.3E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		7.78E-04	0.00E+00			0.00E+00	7.8E-04
Polycyclic Organic Matter		3.30E-03							2.27E-03						2.3E-03
Xylene			1.09E-04	1.09E-04						7.50E-05	0.00E+00				7.5E-05
Total HAPs							0.66	0.05	0.10	0.00	0	0	0.00	0.75	

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 5/10), 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 10/98), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

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

Abbreviations

- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- PM2.5 = Particulate Matter (<2.5 um)
- SO2 = Sulfur Dioxide
- NOx = Nitrous Oxides
- VOC = Volatile Organic Compounds
- CO = Carbon Monoxide
- HAP = Hazardous Air Pollutant
- HCl = Hydrogen Chloride
- PAH = Polyaromatic Hydrocarbon

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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 at the source.

Fuel Limitations

Maximum Fuel Input Rate =	80	MMBtu/hr									
Natural Gas Limitation =	701	MMCF/yr									
No. 2 Fuel Oil Limitation =	1,376,571	gal/yr, and		0.50	% sulfur						
No. 4 Fuel Oil Limitation =	1,376,571	gal/yr, and		0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and		0.00	% sulfur						
Propane Limitation =	0	gal/yr, and		0.00	gr/100 ft ³ sulfur						
Butane Limitation =	0	gal/yr, and		0.00	gr/100 ft ³ sulfur						
Used/Waste Oil Limitation =	0	gal/yr, and		0.00	% sulfur	0.00	% ash	0.000	% chlorine	0.000	% lead

Limited Emissions

CO ₂ e Fraction	Emission Factor (units)							Global 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	42,104.71	15,487.39	16,624.48	0.00	0.00	0.00	0.00
CH ₄	0.87	0.63	0.66	0.00	0.00	0.00	0.00
N ₂ O	0.77	0.18	0.13	0.00	0.00	0.00	0.00
Total	42,106.35	15,488.20	16,625.28	0.00	0.00	0.00	0.00
CO ₂ e Equivalent Emissions (tons/yr)	42,362.03	15,556.06	16,679.64	0.00	0.00	0.00	0.00

CO₂e for Worst Case Fuel* (tons/yr)
42,362.03

Methodology

Fuel Limitations from TSD Appendix A.2, page 1 of 15.

Global 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, No. 4, and Residual (No. 5 or No. 6) Fuel: 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 Oil: (dated 5/10), 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 and Batch Tower - Process Emissions**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

The following calculations determine the limited emissions from the aggregate drying/mixing and the batch tower.

Maximum Hourly Asphalt Production =	180	ton/hr
Annual Asphalt Production Limitation =	200,000	ton/yr
PM Dryer/Mixer Limitation =	0.500	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.387	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.387	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.400	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.008	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worst Case PTE
	Batch-Mix Plant (dryer, hot screens, and mixer)			Batch-Mix Plant (dryer, hot screens, and mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM	0.500	0.500	0.500	50.0	50.0	0.0	50.0
PM10	0.387	0.387	0.387	38.7	38.7	0.0	38.7
PM2.5	0.387	0.387	0.387	38.7	38.7	0.0	38.7
SO2*	0.0046	0.088	0.088	0.5	8.8	0.0	8.8
NOx*	0.025	0.12	0.12	2.5	12.0	0.0	12.0
VOC	0.008	0.008	0.008	0.8	0.8	0.0	0.8
CO**	0.400	0.400	0.400	40.0	40.0	0.0	40.0
Hazardous Air Pollutant							
Arsenic	4.60E-07	4.60E-07	4.60E-07	4.60E-05	4.60E-05	4.60E-05	4.60E-05
Beryllium	1.50E-07	1.50E-07	1.50E-07	1.50E-05	1.50E-05	1.50E-05	1.50E-05
Cadmium	6.10E-07	6.10E-07	6.10E-07	6.10E-05	6.10E-05	6.10E-05	6.10E-05
Chromium	5.70E-07	5.70E-07	5.70E-07	5.70E-05	5.70E-05	5.70E-05	5.70E-05
Lead	8.90E-07	8.90E-07	1.00E-05	8.90E-05	8.90E-05	1.00E-03	1.00E-03
Manganese	6.90E-06	6.90E-06	6.90E-06	6.90E-04	6.90E-04	6.90E-04	6.90E-04
Mercury	4.10E-07	4.10E-07	4.10E-07	4.10E-05	4.10E-05	4.10E-05	4.10E-05
Nickel	3.00E-06	3.00E-06	3.00E-06	3.00E-04	3.00E-04	3.00E-04	3.00E-04
Selenium	4.90E-07	4.90E-07	4.90E-07	4.90E-05	4.90E-05	4.90E-05	4.90E-05
Acetaldehyde	3.20E-04	3.20E-04	3.20E-04	0.03	0.03	0.03	0.03
Benzene	2.80E-04	2.80E-04	2.80E-04	0.03	0.03	0.03	0.03
Ethylbenzene	2.20E-03	2.20E-03	2.20E-03	0.22	0.22	0.22	0.22
Formaldehyde	7.40E-04	7.40E-04	7.40E-04	0.07	0.07	0.07	0.07
Quinone	2.70E-04	2.70E-04	2.70E-04	0.03	0.03	0.03	0.03
Toluene	1.00E-03	1.00E-03	1.00E-03	0.10	0.10	0.10	0.10
Total PAH Haps	1.10E-04	1.10E-04	2.30E-04	0.01	0.01	0.02	0.02
Xylene	2.70E-03	2.70E-03	2.70E-03	0.27	0.27	0.27	0.27
Total HAPs							0.78
Worst Single HAP							0.27 (xylene)

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 11.1-1, 11.1-2, 11.1-5, 11.1-6, 11.1-19, and 11.1-11

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.

* SO2 and NOx 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 batch mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

Abbreviations

PM = Particulate Matter	SO2 = Sulfur Dioxide	CO = Carbon Monoxide	PAH = Polyaromatic Hydrocarbon
PM10 = Particulate Matter (<10 um)	NOx = Nitrous Oxides	HAP = Hazardous Air Pollutant	
PM2.5 = Particulate Matter (< 2.5 um)	VOC = Volatile Organic Compounds	HCl = Hydrogen Chloride	

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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

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

Criteria Pollutant	Emission Factor (lb/ton) Batch-Mix Plant (dryer/mixer)			Global Warming Potentials (GWP)	Limited Potential to Emit (tons/yr) Batch-Mix Plant (dryer/mixer)			CO ₂ e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO ₂	37	37	37	1	3,700.00	3,700.00	3,700.00	3,715.54
CH ₄	0.0074	0.0074	0.0074	21	0.74	0.74	0.74	
N ₂ O				310	0	0	0	
Total					3,700.74	3,700.74	3,700.74	
CO ₂ e Equivalent Emissions (tons/yr)					3,715.54	3,715.54	3,715.54	

Methodology

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

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

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

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

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

Abbreviations

CO₂ = Carbon Dioxide

CH₄ = Methane

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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

Limited Blast Furnace Slag Usage =

0

 ton/yr

1.50

 % sulfur
 Limited Annual Steel Slag Usage =

0

 ton/yr

0.66

 % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Limited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	0.0000	0.0
Steel Slag**	0.0000	0.00

Methodology

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

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

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

Abbreviations

SO2 = Sulfur Dioxide

Appendix A.2: Limited Emissions Summary

Hot Oil Heater

Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Maximum Hot Oil Heater Fuel Input Rate = 1.00 MMBtu/hr
 Natural Gas Usage = 9 MMCF/yr
 No. 2 Fuel Oil Usage = 0 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	0.008	0.000	0.01
PM10/PM2.5	7.6	3.3	0.033	0.000	0.03
SO2	0.6	71.0	0.003	0.000	0.00
NOx	100	20.0	0.438	0.000	0.44
VOC	5.5	0.20	0.024	0.000	0.02
CO	84	5.0	0.368	0.000	0.37
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	8.8E-07	0.00E+00	8.8E-07
Beryllium	1.2E-05	4.2E-04	5.3E-08	0.00E+00	5.3E-08
Cadmium	1.1E-03	4.2E-04	4.8E-06	0.00E+00	4.8E-06
Chromium	1.4E-03	4.2E-04	6.1E-06	0.00E+00	6.1E-06
Cobalt	8.4E-05		3.7E-07		3.7E-07
Lead	5.0E-04	1.3E-03	2.2E-06	0.00E+00	2.2E-06
Manganese	3.8E-04	8.4E-04	1.7E-06	0.00E+00	1.7E-06
Mercury	2.6E-04	4.2E-04	1.1E-06	0.00E+00	1.1E-06
Nickel	2.1E-03	4.2E-04	9.2E-06	0.00E+00	9.2E-06
Selenium	2.4E-05	2.1E-03	1.1E-07	0.00E+00	1.1E-07
Benzene	2.1E-03		9.2E-06		9.2E-06
Dichlorobenzene	1.2E-03		5.3E-06		5.3E-06
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	3.3E-04	0.00E+00	0.000
Hexane	1.8E+00		0.01		0.008
Phenol					0
Toluene	3.4E-03		1.5E-05		1.5E-05
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		0.00E+00	0.0E+00

Total HAPs = 8.3E-03 0.0E+00 0.008
Worst Single HAP = 7.9E-03 0.0E+00 7.9E-03
 (Hexane) (Formaldehyde) (Hexane)

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 5/10), 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)
 PM2.5 = Particulate Matter (<2.5 um)
 SO2 = Sulfur Dioxide
 NOx = Nitrous Oxides
 VOC = Volatile Organic Compounds
 CO = Carbon Monoxide
 HAP = Hazardous Air Pollutant
 HCl = Hydrogen Chloride
 PAH = Polyaromatic Hydrocarbon

Appendix A.2: Limited Emissions Summary

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Maximum Hot Oil Heater Fuel Input Rate = 1.00 MMBtu/hr
 Natural Gas Usage = 8.76 MMCF/yr
 No. 2 Fuel Oil Usage = 0.00 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO ₂	120,161.84	22,501.41	1	526.31	0.00
CH ₄	2.49	0.91	21	0.011	0.00E+00
N ₂ O	2.20	0.26	310	0.010	0.00E+00
	Total			526.33	0.00

Worse Case CO₂e Emissions (tons/yr)
529.53

CO ₂ e Equivalent Emissions (tons/yr)	529.53	0.00
--	--------	------

Methodology

Global 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 5/10), Table 1.3-8

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
Hot Oil Heating System - Process Emissions**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

The following calculations determine the unlimited/uncontrolled emissions from the combustion of natural gas and No. 2 fuel oil in the hot oil heating system, which is used to heat a specially designed transfer oil. The hot transfer oil is then pumped through a piping system that passes through the asphalt cement storage tanks, in order to keep the asphalt cement at the correct temperature.

Maximum Fuel Input Rate To Hot Oil Heater = 1.00 MMBtu/hr
 Natural Gas Usage = 8.76 MMCF/yr, and
 No. 2 Fuel Oil Usage = 0.00 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE	
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	Case	PTE
VOC	2.60E-08	2.65E-05	1.14E-04	0.000		0.000
CO	8.90E-06	0.0012	0.039	0.000		0.039
Greenhouse Gas as CO2e*						
CO2	0.20	28.00	876.00	0.00		876.00
Hazardous Air Pollutant						
Formaldehyde	2.60E-08	3.50E-06	1.14E-04	0.00E+00		1.14E-04
Acenaphthene		5.30E-07		0.00E+00		0.00E+00
Acenaphthylene		2.00E-07		0.00E+00		0.00E+00
Anthracene		1.80E-07		0.00E+00		0.00E+00
Benzo(b)fluoranthene		1.00E-07		0.00E+00		0.00E+00
Fluoranthene		4.40E-08		0.00E+00		0.00E+00
Fluorene		3.20E-08		0.00E+00		0.00E+00
Naphthalene		1.70E-05		0.00E+00		0.00E+00
Phenanthrene		4.90E-06		0.00E+00		0.00E+00
Pyrene		3.20E-08		0.00E+00		0.00E+00
Total HAPs						1.14E-04
Worst Single HAP						1.14E-04 (Naphthalene)

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 No. 2 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Natural Gas: Potential to Emit (tons/yr) = (Natural Gas Usage (MMCF/yr))*(Emission Factor (lb/CF))*(1000000 CF/MMCF)*(ton/2000 lbs)
 No. 2 Fuel Oil: Potential to Emit (tons/yr) = (No. 2 Fuel Oil Usage (gals/yr))*(Emission Factor (lb/gal))*(ton/2000 lbs)
 Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 (ton/yr) x CO2 GWP (1)
 1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu
 Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Table 11.1-13

*Note: There are no emission factors for CH4 and N2O available in either 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no CH4 and N2O emission anticipated from this process.

Abbreviations

CO = Carbon Monoxide

VOC = Volatile Organic Compound

CO2 = Carbon Dioxide

Appendix A.2: Limited Emissions Summary
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Output Horsepower Rating (hp)	0.0
Limited Hours Operated per Year	2500
Limited Throughput (hp-hr/yr)	0
Limited Diesel Fuel Usage (gal/yr)	0

	Pollutant						
	PM ²	PM10 ²	direct PM2.5 ²	SO ₂	NO _x	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Emission Factor in lb/kgal ¹	43.07	43.07	43.07	40.13	606.85	49.22	130.77
Limited Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

¹ The AP-42 Chapter 3.3-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

¹Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

²PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							Total PAH HAPs ³
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/MMBtu	9.33E-04	4.09E-04	2.85E-04	3.91E-05	1.18E-03	7.67E-04	9.25E-05	1.68E-04
Emission Factor in lb/kgal ⁴	1.28E-01	5.60E-02	3.91E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Limited Emission in tons/yr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

³PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

⁴The AP-42 Chapter 3.3-1 emission factors in lb/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁴Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Limited Emission of Total HAPs (tons/yr)	0.00E+00
Limited Emission of Worst Case HAPs (tons/yr)	0.00E+00

Green House Gas Emissions (GHG)

	Pollutant		
	CO ₂ ⁵	CH ₄ ⁶	N ₂ O ⁶
Emission Factor in lb/hp-hr	1.15	NA	NA
Emission Factor in kg/MMBtu	NA	0.003	0.0006
Emission Factor in lb/kgal	22,512.07	0.91	0.18
Limited Emission in tons/yr	0.00	0.000	0.000

⁵The AP-42 Chapter 3.3-1 emission factor in lb/hp-hr was converted to lb/kgal emission factor using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁵Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

⁶The 40 CFR 98 Subpart C emission factors in kg/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁶Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kg) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Summed Limited Emissions in tons/yr	0.00
CO₂e Total in tons/yr	0.00

Methodology

Limited Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Limited Hours Operated per Year]

Limited Diesel Fuel Usage (gal/yr) = Limited Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)

Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2 and have been converted to lb/kgal

CH₄ and N₂O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal

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

Limited Emissions (tons/yr) = [Limited Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 gal/kgal) / (2,000 lb/ton)

CO₂e (tons/yr) = CO₂ Potential Emission ton/yr x CO₂ GWP (1) + CH₄ Potential Emission ton/yr x CH₄ GWP (21) + N₂O Potential Emission ton/yr x N₂O GWP (310).

Appendix A.2: Limited Emissions Summary
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Output Horsepower Rating (hp)	0.0	Sulfur Content (S) of Fuel (% by weight)	0.50
Limited Hours Operated per Year	2500		
Limited Throughput (hp-hr/yr)	0		
Limited Diesel Fuel Usage (gal/yr)	0		

	Pollutant						
	PM	PM10 ²	direct PM2.5 ²	SO ₂	NO _x	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04			4.05E-03 (.00809S)	2.40E-02	7.05E-04	5.50E-03
Emission Factor in lb/MMBtu		0.0573	0.0573				
Emission Factor in lb/kgal ¹	13.70	7.85	7.85	79.18	469.82	13.80	107.67
Limited Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

¹ The AP-42 Chapter 3.4-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

¹Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

²Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

²Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Hazardous Air Pollutants (HAPs)

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs ³
Emission Factor in lb/MMBtu	7.76E-04	2.81E-04	1.93E-04	7.89E-05	2.52E-05	7.88E-06	2.12E-04
Emission Factor in lb/kgal ⁴	1.06E-01	3.85E-02	2.64E-02	1.08E-02	3.45E-03	1.08E-03	2.91E-02
Limited Emission in tons/yr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

³PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

⁴Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁴Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Limited Emission of Total HAPs (tons/yr)	0.00E+00
Limited Emission of Worst Case HAPs (tons/yr)	0.00E+00

Green House Gas Emissions (GHG)

	Pollutant		
	CO ₂ ⁵	CH ₄ ^{5,6}	N ₂ O ⁷
Emission Factor in lb/hp-hr	1.16	6.35E-05	NA
Emission Factor in kg/MMBtu	NA	NA	0.0006
Emission Factor in lb/kgal	22,707.83	1.24	0.18
Limited Emission in tons/yr	0.00	0.00	0.00

⁵ The AP-42 Chapter 3.4-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁵Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

⁶According to AP-42, Table 3.4-1, TOC (as CH₄) is 9% methane by weight. As a result, the lb/hp-hr emission factor for TOC (as CH₄) in AP-42 has been multiplied by 9% to determine the portion that is emitted as methane.

⁷The 40 CFR 98 Subpart C emission factors in kg/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁷Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kg) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Summed Potential Emissions in tons/yr	0.00
CO ₂ e Total in tons/yr	0.00

Methodology

Limited Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Limited Hours Operated per Year]

Limited Diesel Fuel Usage (gal/yr) = Limited Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 and have been converted to lb/kgal.

N₂O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal.

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

Limited Emissions (tons/yr) = [Limited Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 gal/kgal) / (2,000 lb/ton)

CO₂e (tons/yr) = CO₂ Potential Emission ton/yr x CO₂ GWP (1) + CH₄ Potential Emission ton/yr x CH₄ GWP (21) + N₂O

Potential Emission ton/yr x N₂O GWP (310).

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	200,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.05	0.06	NA	0.11
Organic PM	3.4E-04	2.5E-04	NA	0.03	0.025	NA	0.06
TOC	0.004	0.012	0.001	0.42	1.22	0.110	1.7
CO	0.001	0.001	3.5E-04	0.13	0.118	0.035	0.29

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

PM/HAPs	0.002	0.003	0	0.005
VOC/HAPs	0.006	0.015	0.002	0.023
non-VOC/HAPs	3.2E-05	3.3E-06	8.5E-06	4.4E-05
non-VOC/non-HAPs	0.03	0.02	0.01	0.06
Total VOCs	0.39	1.22	0.1	1.7
Total HAPs	0.01	0.02	0.002	0.03
Worst Single HAP				0.009
				(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)::

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

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

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

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

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

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

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

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

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

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

*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, Silo Filling, and Yard Emissions (continued)**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)				
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total	
PAH HAPs											
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	8.9E-05	1.2E-04	NA	2.1E-04	
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	9.5E-06	3.6E-06	NA	1.3E-05	
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	2.4E-05	3.3E-05	NA	5.7E-05	
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	6.5E-06	1.4E-05	NA	2.1E-05	
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	2.6E-06	0	NA	2.6E-06	
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	7.5E-07	0	NA	7.5E-07	
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	6.5E-07	0	NA	6.5E-07	
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	7.8E-07	0	NA	7.8E-07	
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	2.7E-06	2.4E-06	NA	5.1E-06	
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	3.5E-05	5.3E-05	NA	8.8E-05	
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	1.3E-07	0	NA	1.3E-07	
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.7E-05	3.8E-05	NA	5.5E-05	
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	2.6E-04	2.6E-04	NA	5.2E-04	
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.6E-07	0	NA	1.6E-07	
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	8.1E-04	1.3E-03	NA	0.002	
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	4.3E-04	4.6E-04	NA	8.9E-04	
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	7.5E-06	7.6E-06	NA	1.5E-05	
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	2.8E-04	4.6E-04	NA	7.3E-04	
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	5.1E-05	1.1E-04	NA	1.6E-04	
Total PAH HAPs							0.002	0.003	NA	0.005	
Other semi-volatile HAPs											
Phenol		PM/HAP	---	Organic PM	1.18%	0	4.0E-04	0	0	4.0E-04	

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, Silo Filling, and Yard Emissions (continued)

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	0.39	1.22	0.10	1.71
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	2.7E-02	3.2E-03	7.2E-03	0.037
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.9E-04	6.7E-04	5.1E-05	0.001
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	3.0E-03	1.3E-02	7.8E-04	0.017
Total non-VOC/non-HAPS					7.30%	1.40%	0.030	0.017	0.008	0.06
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	2.2E-04	3.9E-04	5.7E-05	6.6E-04
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	4.0E-05	6.0E-05	1.1E-05	1.1E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	2.0E-04	4.8E-04	5.4E-05	7.3E-04
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	5.4E-05	1.9E-04	1.4E-05	2.6E-04
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	8.7E-07	4.9E-05	2.3E-07	5.0E-05
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	6.2E-05	2.8E-04	1.7E-05	3.6E-04
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	4.6E-04	0	1.2E-04	5.8E-04
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	1.2E-03	4.6E-04	3.1E-04	0.002
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	3.7E-04	8.4E-03	9.7E-05	0.009
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	6.2E-04	1.2E-03	1.7E-04	0.002
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	7.5E-06	3.8E-06	2.0E-06	1.3E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	3.3E-06	0	3.3E-06
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	3.0E-05	6.6E-05	8.0E-06	1.0E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	3.2E-05	0	8.5E-06	4.0E-05
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	8.7E-04	7.6E-04	2.3E-04	0.002
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	5.4E-06	0	1.4E-06	6.8E-06
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.7E-03	2.4E-03	4.5E-04	0.005
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	3.3E-04	6.9E-04	8.8E-05	1.1E-03
Total volatile organic HAPs					1.50%	1.30%	0.006	0.016	0.002	0.024

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: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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

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

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.10	0.055	0.019
Limestone	1.6	1.85	0.27	0.091	0.032
RAP	0.5	0.58	0.05	0.005	0.002
Gravel	1.6	1.85	0.04	0.014	0.005
Shingles	0.5	0.58	0.00	0.000	0.000
Slag	3.8	4.40	0.00	0.000	0.000
Totals				0.16	0.06

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.

PM2.5 = PM10

Abbreviations

RAP = recycled asphalt pavement

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
Material Processing, Handling, Crushing, Screening, and Conveying

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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

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

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

where: E_f = Emission factor (lb/ton)

k (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U =	10.2	= worst case annual mean wind speed (Source: NOAA, 2006*)
M =	4.0	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
E_f (PM) =	2.27E-03	lb PM/ton of material handled
E_f (PM10) =	1.07E-03	lb PM10/ton of material handled
E_f (PM2.5) =	1.62E-04	lb PM2.5/ton of material handled

Annual Asphalt Production Limitation =	200,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	190,000	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	0.22	0.10	0.02
Front-end loader dumping of materials into feeder bins	0.22	0.10	0.02
Conveyor dropping material into dryer/mixer or batch tower	0.22	0.10	0.02
Total (tons/yr)	0.65	0.31	0.05

Methodology

The percent asphalt cement/binder provided by the source.
 Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
 Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives
 *Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 19.2.2)

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Screening	0.025	0.0087	2.38	0.83
Conveying	0.003	0.0011	0.29	0.10
Limited Potential to Emit (tons/yr) =			2.66	0.93

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: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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 =	200,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	190,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	10,000	tons/yr
No. 2 Fuel Oil Limitation =	1,376,571	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)	0.0	22.4	22.4	8.5E+03	1.9E+05	0	0.000	0.0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	8.5E+03	1.4E+05	0	0.000	0.0
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	2.8E+02	1.3E+04	0	0.000	0.0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.8E+02	3.3E+03	0	0.000	0.0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	1.5E+02	6.4E+03	0	0.000	0.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.5E+02	1.7E+03	0	0.000	0.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	4.5E+04	8.7E+05	0	0.000	0.0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	4.5E+04	6.8E+05	0	0.000	0.0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	8.3E+03	3.4E+05	0	0.000	0.0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	8.3E+03	1.4E+05	0	0.000	0.0
Total					1.2E+05	2.4E+06			0.0E+00

Average Vehicle Weight Per Trip =	19.1	tons/trip
Average Miles Per Trip =	0.000	miles/trip

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

where k =	PM	PM10	PM2.5	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.9	1.5	0.15	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	4.8	4.8	4.8	= constant (AP-42 Table 13.2.2-2)
W =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
b =	19.1	19.1	19.1	tons = average vehicle weight (provided by source)
	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, Eext = $E \cdot [(365 - P)/365]$

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

Unmitigated Emission Factor, Ef =	PM	PM10	PM2.5	lb/mile
Mitigated Emission Factor, Eext =	5.94	1.51	0.15	lb/mile
Dust Control Efficiency =	3.90	1.00	0.10	lb/mile
	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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) PTE = Potential to Emit

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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	=	200,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	=	5.0%	
Maximum Material Handling Throughput	=	190,000	tons/yr
Maximum Asphalt Cement/Binder Throughput	=	10,000	tons/yr
No. 2 Fuel Oil Limitation	=	1,376,571	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 (14 CY)	14.5	20.0	34.50	9.5E+03	3.3E+05	330	0.063	593.8
Aggregate/RAP Truck Leave Empty	Dump truck (14 CY)	14.5	0	14.50	9.5E+03	1.4E+05	330	0.063	593.8
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	15.0	25.0	40.00	4.0E+02	1.6E+04	117	0.022	8.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	15.0	0	15.00	4.0E+02	6.0E+03	117	0.022	8.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	15.0	25.0	40.00	1.9E+02	7.4E+03	117	0.022	4.1
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	15.0	0	15.00	1.9E+02	2.8E+03	117	0.022	4.1
Aggregate/RAP Loader Full	Front-end loader (3 CY)	11.0	3.0	14.00	6.3E+04	9.9E+05	145	0.027	1739.3
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	11.0	0	11.00	6.3E+04	7.0E+05	145	0.027	1739.3
Asphalt Concrete Truck Leave Full	Dump truck (14 CY)	14.5	20.0	34.50	1.0E+04	3.5E+05	125	0.024	236.7
Asphalt Concrete Truck Enter Empty	Dump truck (14 CY)	14.5	0	14.50	1.0E+04	1.5E+05	125	0.024	236.7
Total					1.7E+05	2.6E+06			5.2E+03

Average Vehicle Weight Per Trip	=	15.4	tons/trip
Average Miles Per Trip	=	0.031	miles/trip

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

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	15.4	15.4	15.4	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

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

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f	0.11	0.02	0.01	lb/mile
Mitigated Emission Factor, E_{ext}	0.10	0.02	0.01	lb/mile
Dust Control Efficiency	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.03	0.01	0.00	0.03	0.01	0.00	0.02	0.00	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.03	0.01	0.00	0.03	0.01	0.00	0.02	0.00	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	2.4E-05	0.000	0.000	2.2E-05	0.000	4.6E-05	1.1E-05
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	2.4E-05	0.000	0.000	2.2E-05	0.000	4.6E-05	1.1E-05
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	2.3E-04	4.8E-05	1.1E-05	2.1E-04	4.2E-05	1.0E-05	1.1E-04	2.1E-05	5.2E-06
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	2.3E-04	4.8E-05	1.1E-05	2.1E-04	4.2E-05	1.0E-05	1.1E-04	2.1E-05	5.2E-06
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.10	0.02	0.00	0.09	0.02	0.00	0.04	0.01	0.00
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.10	0.02	0.00	0.09	0.02	0.00	0.04	0.01	0.00
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00
Totals		0.29	0.06	0.01	0.27	0.05	0.01	0.13	0.03	0.01

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) PTE = Potential to Emit

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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

Limited VOC Emissions from the Sum of the Liquid Binders = 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%	0.0	0.0	#DIV/0!
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	0.0	0.0	#DIV/0!
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	0.0	0.0	#DIV/0!
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	0.0	0.0	#DIV/0!
Other asphalt with solvent binder	25.9%	2.5%	0.0	0.0	#DIV/0!
Worst Case Limited PTE of VOC =				0.0	

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

Abbreviations

VOC = Volatile Organic Compounds
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Asphalt Production Operation
Cold Mix Asphalt Storage Stockpiles**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Note: Since the emissions from the cold-mix asphalt storage piles are minimal, the limited emissions are equal to the unlimited

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid

Maximum Annual Cold-mix Asphalt Storage Stockpile Throughput = 40.0 tons
 Percent Asphalt Cement/Binder (weight %) Content = 7%
 Maximum Annual Asphalt Cement/Binder Throughput = 2.80 tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Content (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	0.71	0.67
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	0.80	0.56
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	0.56	0.14
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	0.42	0.19
Other asphalt with solvent binder	25.9%	2.5%	0.73	0.02
Worst Case PTE of VOC =				0.67

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) =	0.18
PTE of Single HAP (tons/yr) =	0.06 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	naphthalen	Xylenes	Xylenes	Chrysene

Methodology

Maximum Annual Asphalt Cement/Binder Throughput = [Maximum Cold-mix Asphalt Storage Stockpile Throughput (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]

Maximum Annual VOC Solvent Content (tons/yr) = [Maximum Annual Asphalt Cement/Binder Content (tons/yr)] * [Maximum Weight % of VOC Solvent in Binder]

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

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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:

$$\begin{aligned} \text{Gasoline Throughput} &= \frac{75}{27.4} \text{ gallons/day} \\ &= \text{kgal/yr} \end{aligned}$$

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	0.01
Vehicle refueling (displaced losses - controlled)	1.1	0.02
Spillage	0.7	0.01
Total		0.04

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) =	0.01	
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.

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

Hot Water Heater: Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Note: Since the fuel combustion emissions from the hot water heater are minimal, the limited emissions are equal to the unlimited emissions.

Maximum Hot Oil Heater Fuel Input Rate = 3.50 MMBtu/hr
 Natural Gas Usage = 30.66 MMCF/yr

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factors (units)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Hot Water Heater	Hot Water Heater	
	Natural Gas (lb/MMCF)	Natural Gas (tons/yr)	Total Emissions (tons/yr)
PM	1.9	0.029	0.03
PM10/PM2.5	7.6	0.117	0.12
SO2	0.6	0.009	0.01
NOx	100	1.533	1.53
VOC	5.5	0.084	0.08
CO	84	1.288	1.29
Hazardous Air Pollutant			
Arsenic	2.0E-04	3.1E-06	3.1E-06
Beryllium	1.2E-05	1.8E-07	1.8E-07
Cadmium	1.1E-03	1.7E-05	1.7E-05
Chromium	1.4E-03	2.1E-05	2.1E-05
Cobalt	8.4E-05	1.3E-06	1.3E-06
Lead	5.0E-04	7.7E-06	7.7E-06
Manganese	3.8E-04	5.8E-06	5.8E-06
Mercury	2.6E-04	4.0E-06	4.0E-06
Nickel	2.1E-03	3.2E-05	3.2E-05
Selenium	2.4E-05	3.7E-07	3.7E-07
Benzene	2.1E-03	3.2E-05	3.2E-05
Dichlorobenzene	1.2E-03	1.8E-05	1.8E-05
Ethylbenzene			0
Formaldehyde	7.5E-02	1.1E-03	1.1E-03
Hexane	1.8E+00	0.03	0.028
Phenol			0
Toluene	3.4E-03	5.2E-05	5.2E-05
Total PAH Haps	negl	negl	0
Polycyclic Organic Matter			0
Total HAPs			0.029

Methodology

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [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

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

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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

Maximum Hot Water Heater Fuel Input Rate =

3.50

 ton/hr
 Natural Gas Usage =

30.66

 ton/yr

Criteria Pollutant	Emission Factor (lbs/MMBtu)	Global warming potential	Unlimited/Uncontrolled Potential to Emit (tons/yr)
CO2	120,162	1	1,842
CH4	2.49	21	0.80
N2O	2.2	310	10.46
Total			1,853

CO2e Equivalent Emissions (tons/yr)	1,853
--	--------------

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 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
 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

Abbreviations

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

**Appendix A.2: Limited Emissions Calculations
Concrete Dry Batching Operations
Particulate Emissions from Material Processing, Handling, and Conveying**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Material Processing and Handling (AP 42 Section 11.12)

Annual Concrete Production Limitation =	150,000	tons/yr
Aggregate Usage Limitation =	497,937	tons/yr
Sand Usage Limitation =	846,800	tons/yr
Cement Usage Limitation =	27,273	tons/yr
Cement supplement Usage Limitation =	20,000	tons/yr

Type of Activity	Uncontrolled Emission Factor for PM (lbs/ton)	Uncontrolled Emission Factor for PM10/PM2.5 (lbs/ton)	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5* (tons/yr)
Fugitive Emissions				
Aggregate delivery to ground Storage (3-05-011-21) ^{1, α, Δ}	0.0023	0.0011	0.56	0.27
Aggregate transfer to conveyor (3-05-011-23) ^{1, α, Δ}	0.0023	0.0011	0.56	0.27
Sand delivery to ground storage (3-05-011-23) ^{1, β, Δ}	0.0023	0.0011	0.96	0.45
Sand transfer to conveyor (3-05-011-24) ^{1, β, Δ}	0.0023	0.0011	0.96	0.45
Subtotal			3.05	1.44
Ducted/Ductable Emissions				
Aggregate transfer to elevated storage (3-05-011-04) ^{1, α, Δ}	0.0023	0.0011	0.56	0.27
Sand transfer to elevated storage (3-05-011-05) ^{1, β, Δ}	0.0023	0.0011	0.96	0.45
Cement delivery to Silo (3-05-011-07 controlled) ^{2, z}	0.72	0.4600	9.82	6.27
Cement supplement delivery to Silo (3-05-011-17 controlled) ^{2, s}	3.14	1.1000	31.40	11.00
Weigh hopper loading (3-05-011-08) ^{2, e}	0.0051	0.0024	0.38	0.18
Truck Loading (truck-mix) (3-05-011-10) ^{2, e}	0.9950	0.2780	74.63	20.85
Subtotal			117.75	39.02
Limited Potential to Emit (tons/yr) =			120.80	40.47

Methodology

* In the absence of valid AP 42 emission factors, it is assumed that PM2.5 emissions = PM10 emissions

¹ Emission factors for Aggregate and Sand Handling, calculated using AP-42 Section 13.2.4 (fifth edition, updated 11/06) equation #1, page 13.2.4-4.

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

where: k = particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um and 0.35 assumed for aerodynamic diameter <=10 um)

U = worst case annual mean wind speed (Source: NOAA, 2006*)

M = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)

² To estimate potential fugitive dust emissions from material processing and handling, AP-42 emission factors for Concrete Batching Truck-Mix Operations, Section 11.12 (dated 6/06), Table 11.12-5 are utilized.

α Limited Potential to Emit (tons/yr) = (Aggregate Usage Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (8760 hrs/yr) * (ton/2000 lbs)

β Limited Potential to Emit (tons/yr) = (Sand Usage Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (8760 hrs/yr) * (ton/2000 lbs)

χ Limited Potential to Emit (tons/yr) = (Cement Usage Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (8760 hrs/yr) * (ton/2000 lbs)

δ Limited Potential to Emit (tons/yr) = (Cement supplement Usage Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (8760 hrs/yr) * (ton/2000 lbs)

ε Limited Potential to Emit (tons/yr) = (Annual Concrete Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (8760 hrs/yr) * (ton/2000 lbs)

Δ Note: Since the emissions from the aggregate and sand delivery and transfers are minimal, the limited emissions are equal to the unlimited emissions and therefore limited usage is equal to unlimited usage.

Raw materials used in the production of ready-mix concrete may include limestone, sand, cement, and cement supplements.

Cement supplements may include both mineral and chemical admixtures.

Mineral admixtures, may include fly ash, silica fume, natural pozzolans, and ground granulated blast-furnace slag.

Chemical admixtures are added to the mix, in very small amounts, immediately before or during mixing, and may include air-entrainers, water-reducers set retarders, set accelerators, and plasticizers (superplasticizers). All other varieties of admixtures fall into the specialty category whose functions include corrosion inhibition, shrinkage reduction, alkali-silica reactivity reduction, workability enhancement, bonding, damp proofing, and coloring.

Material Conveying (AP-42 Section 11.19.2)

Maximum Material Usage = tons/yr

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)*
Ducted/Ductable Emissions				
Conveying ¹	0.003	0.0011	2.02	0.74
Limited Potential to Emit (tons/yr) =			2.02	0.74

Methodology

* In the absence of valid AP 42 emission factors, it is assumed that PM2.5 emissions = PM10 emissions

¹ To estimate potential fugitive dust emissions from raw material conveying, AP-42 emission factors for Crushed Stone Processing Operations, Chapter 11.19.2 (dated 8/04), Table 11.19.2-2 are utilized.

Maximum Material Usage (tons/yr) = [Aggregate Usage Limitation (tons/yr) + Sand Usage Limitation (tons/yr)]

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

Raw materials may include aggregates and sand.

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Calculations
Concrete Dry Batching Operations
HAPs Emissions from Material Processing and Handling**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

Material Processing and Handling (AP 42 Section 11.12)

Annual Concrete Production Limitation = 150,000 tons/yr
 Annual Combined Cement/Cement Supplement Limitation * = 47,273 tons/yr

	Worst Case HAP Emission Factor ¹ (Manganese)	Total HAPs ² Emission Factor (lb/ton)	PTE Worst Case HAP (Manganese)	PTE Total HAPs ³ (tons/yr)
Ducted/Ductable Emissions				
Cement delivery to Silo (3-05-011-07) ^{α,β}	1.01E-04	2.34E-04	0.002	0.006
Cement supplement delivery to Silo (3-05-011-17 controlled) ^{α,β}	1.01E-04	2.34E-04	0.002	0.006
Weigh hopper loading ^{γ,δ}	1.01E-04	2.34E-04	0.008	0.018
Truck Loading (truck-mix) (3-05-011-10) ^{γ,δ}	3.06E-05	1.32E-04	0.0007	0.010

Limited Potential to Emit HAPs (tons/yr) = 0.01 0.04

Methodology

* Cement supplements may include both mineral and chemical admixtures.

Mineral admixtures, may include fly ash, silica fume, natural pozzolans, and ground granulated blast-furnace slag.

Chemical admixtures are added to the mix, in very small amounts, immediately before or during mixing, and may include air-entrainers, water-reducers, set retarders, set accelerators, and plasticizers (superplasticizers). All other varieties of admixtures fall into the specialty category whose functions include corrosion inhibition, shrinkage reduction, alkali-silica reactivity reduction, workability enhancement, bonding, damp proofing, and coloring.

¹ Worst Case HAP Emission Factors

Because there were no HAP emission factors available in AP-42 for the weigh hopper loading, 1.01E-04 lb/ton is used as a worst-case scenario.

² To estimate potential hazardous air pollutant emissions from material processing and handling, AP-42 emission factors for Concrete Batching Operations, Section 11.12 (dated 6/06), Table 11.12-8 are utilized.

The emission factor, 2.34E-04 lb/ton, shown above is the sum of all metal emission factors for cement silo filling provided in AP-42.

The emission factor, 1.32E-04 lb/ton, shown above is the sum of all metal emission factors for truck loading provided in AP-42.

Because there were no HAP emission factors available in AP-42 for the weigh hopper loading, 2.34E-04 lb/ton is used as a worst-case scenario.

³ The HAPs being accounted for in the "TOTAL" are metal HAPs and include Arsenic, Beryllium, Cadmium, Total Chromium, Lead, Manganese, Nickel, Total Phosphorus, and Selenium.

^α PTE Worst Case HAP (tons/yr) = Annual Combined Cement/Cement Supplement Usage Limitation (tons/yr) * Manganese Emission Factor (lb/ton) * 1 ton/2,000 lbs

^β PTE Total HAPs (tons/yr) = Annual Combined Cement/Cement Supplement Usage Limitation (tons/yr) * Total HAPs Emission Factor (lb/ton) *

^γ PTE Total HAPs (tons/yr) = Annual Concrete Production Limitation (tons/yr) * Manganese Emission Factor (lb/ton) * 1 ton/2,000 lbs

^δ PTE Total HAPs (tons/yr) = Annual Concrete Production Limitation (tons/yr) * Total HAPs Emission Factor (lb/ton) * 1 ton/2,000 lbs

Abbreviations

PM = Particulate Matter

PM2.5 = Particulate Matter (<2.5 um)

PM10 = Particulate Matter (<10 um)

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Calculation:
Concrete Dry Batching Operations
Paved Roads**

Company Name: Jerry David Enterprises, Inc.
Source Address: 4301 Hogue Road, Evansville, IN 47712
Permit Number: F163-32093-00082
Reviewer: Bruce Farrar
Date: July 5, 2012

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 Concrete Production Limitation =	150,000	tons/yr
Annual Combined Aggregate/Sand Limitation =	1,344,737	tons/yr
Annual Combined Cement/Cement Supplement Limitation =	47,273	tons/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/Sand Truck Enter Full	Dump truck (16 CY)	17.0	20.0	37.0	6.7E+04	2.5E+06	300	0.057	3,820.3
Aggregate/Sand Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	6.7E+04	1.1E+06	300	0.057	3,820.3
Cement/Cement Supplement Truck Enter Full	Tanker truck (6000 gal)	12.0	25.0	37.0	1.9E+03	7.0E+04	350	0.066	125.3
Cement/Cement Supplement Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.9E+03	2.3E+04	350	0.066	125.3
Aggregate/Sand Loader Full	Front-end loader (3 CY)	9.0	3.0	12.0	4.5E+05	5.4E+06	100	0.019	8,489.5
Aggregate/Sand Loader Empty	Front-end loader (3 CY)	9.0	0	9.0	4.5E+05	4.0E+06	100	0.019	8,489.5
Concrete Truck Leave Full	Dump truck (16 CY)	15.0	20.0	35.0	7.5E+03	2.6E+05	350	0.066	497.2
Concrete Truck Enter Empty	Dump truck (16 CY)	15.0	0	15.0	7.5E+03	1.1E+05	350	0.066	497.2
Total					1.0E+06	1.4E+07			2.6E+04

Average Vehicle Weight Per Trip =	12.9	tons/trip
Average Miles Per Trip =	0.025	miles/trip

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

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	12.9	12.9	12.9	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, $E_{ext} = E * [1 - (p/4N)]$

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f =$	0.33	0.06	0.01	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.30	0.06	0.01	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.64	0.12	0.02	0.58	0.11	0.02	0.29	0.06	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.64	0.12	0.02	0.58	0.11	0.02	0.29	0.06	0.01
Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.021	0.004	5.9E-04	0.019	0.004	5.4E-04	0.010	1.8E-03	2.7E-04
Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.021	0.004	5.9E-04	0.019	0.004	5.4E-04	0.010	1.8E-03	2.7E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	1.41	0.27	0.04	1.29	0.25	0.04	0.65	0.13	0.02
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	1.41	0.27	0.04	1.29	0.25	0.04	0.65	0.13	0.02
Concrete Truck Leave Full	Dump truck (16 CY)	0.08	0.02	0.002	0.08	0.01	0.002	0.04	0.01	0.001
Concrete Truck Enter Empty	Dump truck (16 CY)	0.08	0.02	0.002	0.08	0.01	0.002	0.04	0.01	0.001
Totals		4.30	0.83	0.12	3.93	0.76	0.11	1.97	0.38	0.06

Methodology

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)
 PM2.5 = PM10

Abbreviations

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



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

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

TO: Jon David
Jerry David Enterprises, Inc.
4301 Hogue Rd
Evansville, IN 47712

DATE: October 4, 2012

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

SUBJECT: Final Decision
FESOP - Significant Permit Revision
163 - 32093 - 00082

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

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

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

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

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

October 4, 2012

TO: Evansville Vanderburg Public Library

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

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

Applicant Name: Jerry David Enterprises, Inc.
Permit Number: 163 - 32093 - 00082

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

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

Enclosures
Final Library.dot 11/30/07



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: October 4, 2012

RE: Jerry David Enterprises, Inc. / 163 - 32093 - 00082

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

In order to conserve paper and reduce postage costs, IDEM's Office of Air Quality is now sending many permit decisions on CDs in Adobe PDF format. The enclosed CD contains information regarding the company named above.

This permit is also available on the IDEM website at:
<http://www.in.gov/ai/appfiles/idem-caats/>

If you would like to request a paper copy of the permit document, please contact IDEM's central file room at:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Please Note: *If you feel you have received this information in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV.*

Enclosures
CD Memo.dot 11/14/08

Mail Code 61-53

IDEM Staff	LPOGOST 10/4/2012 Jerry David Enterprises 163 - 32093 - 00082 /final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING	
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: CERTIFICATE OF MAILING ONLY	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Jon David Jerry David Enterprises/Concrete 4301 Hogue Rd Evansville IN 47712 (Source CAATS) Via confirmed delivery										
2		Evansville City Council and Mayors Office 1NW MLK Blvd, Rm 302 Evansville IN 47708 (Local Official)										
3		Vanderburgh County Commissioners 1 NW MLK Blvd, Rm 305 Evansville IN 47708 (Local Official)										
4		Evansville Vanderburg Public Library 200 SE Martin Luther King Jr. Blvd Evansville IN 47708-1694 (Library)										
5		Mr. Wendell Hibdon Plumbers & Steam Fitters Union, Local 136 2300 St. Joe Industrial Park Dr Evansville IN 47720 (Affected Party)										
6		Mr. Don Mottley Save Our Rivers 6222 Yankeetown Hwy Boonville IN 47601 (Affected Party)										
7		Vanderburgh County Health Dept. 420 Milberry Street Evansville IN 47713-1888 (Health Department)										
8		Kim Sherman 3355 Woodview Drive Newburgh IN 47630 (Affected Party)										
9		Mr. Mark Wilson Evansville Courier & Press P.O. Box 268 Evansville IN 47702-0268 (Affected Party)										
10		Mr. John Blair 800 Adams Ave Evansville IN 47713 (Affected Party)										
11		Evansville EPA 100 E. Walnut St. Suite 100, Newsome Center Evansville IN 47713 (Local Official)										
12		David Boggs 216 Western Hills Dr Mt Vernon IN 47620 (Affected Party)										
13												
14												
15												

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
---	--	--	--