



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

TO: Interested Parties / Applicant

DATE: February 9, 2010

RE: Rieth-Riley Construction / 097 - 27199 - 05319

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

## Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures  
FNPER.dot12/03/07



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**New Source Construction and Federally Enforceable  
State Operating Permit  
OFFICE OF AIR QUALITY**

**Rieth-Riley Construction Co., Inc.  
Portable**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

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

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

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

Operation Permit No.: F097-27199-05319	
Issued by:  Iryn Callung, Section Chief Permits Branch Office of Air Quality	Issuance Date: February 9, 2010 Expiration Date: February 9, 2015

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## SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

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

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

Initial Source Address:	1751 West Minnesota Street, Indianapolis, Indiana 46221
Mailing Address:	PO Box 477, Goshen, Indiana 46527
General Source Phone Number:	(574) 875-5183
SIC Code:	2951
County Location:	Marion
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

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

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

- (a) One (1) portable aggregate drum dryer/mixer, identified as EU-1, approved for construction in 2010, with a maximum capacity of 400 tons of asphalt per hour, processing blast furnace and steel slag in the aggregate mix, equipped with one (1) dryer/mixer burner, having a maximum heat input capacity of 100 MMBtu per hour, firing waste oil as primary fuel, using No. 2 fuel oil, No. 4 fuel oil, natural gas, propane gas, and butane gas as backup fuels, equipped with a baghouse for particulate control, and exhausting through Stack SV1.

This unit is considered an affected hot-mix asphalt facility under 40 CFR 60, Subpart I.

- (b) Material handling and conveying operations, approved for construction in 2010, consisting of the following:
- (1) Aggregate storage piles consisting of sand, gravel, limestone, recycled asphalt pavement, and slag;
  - (2) One (1) conveyor;
  - (3) Five (5) cold feed bins;
  - (4) One (1) Recycled Asphalt Pavement (RAP) feed bin;
  - (5) One (1) screening system; and
  - (6) One (1) hot mix asphalt storage silo.

- (c) One (1) liquid asphalt cement storage tank, identified as EU-3, approved for construction in 2010, with a maximum storage capacity of 40,000 gallons.
- (d) One (1) liquid asphalt cement storage tank, identified as EU-4, approved for construction in 2010, with a maximum storage capacity of 31,000 gallons.
- (e) One (1) waste oil storage tank, identified as EU-5, approved for construction in 2010, with a maximum storage capacity of 20,000 gallons.
- (f) One (1) No. 2 fuel oil storage tank, identified as EU-6, approved for construction in 2010, with a maximum storage capacity of 15,000 gallons.
- (g) One (1) diesel fired generator, identified as EU-7, manufactured in 1989, approved for construction in 2010, with a maximum power output rate of 1,300 horsepower, and exhausting through Stack SV7.

This unit is considered an affected source under 40 CFR 63, Subpart ZZZZ.

- (h) One (1) diesel fired generator, identified as EU-8, manufactured in 1998, approved for construction in 2010, with a maximum power output rate of 95.7 horsepower, and exhausting through Stack SV8.

This unit is considered an affected source under 40 CFR 63, Subpart ZZZZ.

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

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

This portable source also includes the following insignificant activities:

- (a) One (1) hot oil heater, identified as EU-2, approved for construction in 2010, with a maximum heat input capacity of 1.15 MMBtu per hour, firing No. 2 fuel oil, and exhausting through Stack SV2.
- (b) A petroleum fuel, other than gasoline, dispensing facility, having a storage tank capacity less than or equal to ten thousand five hundred (10,500) gallons, and dispensing three thousand five hundred (3,500) gallons per day or less.
- (c) Paved and unpaved roads and parking lots with public access.

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

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

## **SECTION B GENERAL CONDITIONS**

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

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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 Revocation of Permits [326 IAC 2-1.1-9(5)]**

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Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

### **B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4][326 IAC 2-8]**

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This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 and 326 IAC 2-8 when prior to the start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.
- (c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

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

- 
- (a) This permit, F097-27199-05319, is issued for a fixed term of five (5) 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.5 Term of Conditions [326 IAC 2-1.1-9.5]**

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

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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.7 Severability [326 IAC 2-8-4(4)]**

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

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

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

**B.9 Duty to Provide Information [326 IAC 2-8-4(5)(E)]**

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- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

**B.10 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]**

---

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

**B.11 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]**

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- (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. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent 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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.12 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.13 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within 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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.14 Emergency Provisions [326 IAC 2-8-12]

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

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or  
Telephone Number: 317-233-0178 (ask for Compliance and Enforcement Branch)  
Facsimile Number: 317-233-6865

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

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

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

(h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

**B.15 Prior Permits Superseded [326 IAC 2-1.1-9.5]**

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(a) All terms and conditions of permits established prior to F097-27199-05319 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.16 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]**

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The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

**B.17 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]**

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- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

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

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

**B.18 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]**

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- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
  - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
  - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]

- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

**B.19 Permit Renewal [326 IAC 2-8-3(h)]**

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- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management  
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 in writing by IDEM, OAQ any additional information identified as being needed to process the application.

**B.20 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]**

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- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management  
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 shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.21 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

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

and

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

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

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

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

- (b) Emission Trades [326 IAC 2-8-15(c)]  
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).

- (c) **Alternative Operating Scenarios [326 IAC 2-8-15(d)]**  
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

**B.22 Source Modification Requirement [326 IAC 2-8-11.1]**

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

**B.23 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]**

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

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

**B.24 Transfer of Ownership or Operational Control [326 IAC 2-8-10]**

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

Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue

MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.25 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

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

B.26 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

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

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

(a) Pursuant to 326 IAC 2-8:

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

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

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

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

C.3 Opacity [326 IAC 5-1]

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

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

County except Lake or the areas specified in Condition C.3(a)(1) through (7).

- (b) 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, when the source is located in the following areas listed in 326 IAC 5-1-1(c):
- (1) Clark County (Jefferson Township - Cities of Jeffersonville, Clarksville, Oak Park);
  - (2) Dearborn County (Lawrenceburg Township - Cities of Lawrenceburg and Greendale);
  - (3) Dubois County (Bainbridge Township - the City of Jasper);
  - (4) Marion County (except the area of Washington Township east of Fall Creek and the area of Franklin Township south of Thompson Road and east of Five Points Road);
  - (5) St. Joseph County (the area north of Kern Road and east of Pine Road);
  - (6) Vanderburgh County (the area included in the City of Evansville and Pigeon Township); and
  - (7) Vigo County (Indiana State University campus, 0.5km radius around UTM Easting 464,519.00, Northing 4,369,208.00, Zone 16).
- (c) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in Lake County.
- (d) 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, when the source is located in any County.

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

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

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

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The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

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

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

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

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

C.8 Fugitive Dust Emissions [326 IAC 6.8-10-3]

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Pursuant to 326 IAC 6.8-10-3 (formerly 326 IAC 6-1-11.1) (Lake County Fugitive Particulate Matter Control Requirements), when located in Lake County, the particulate matter emissions from source wide activities shall meet the following requirements:

- (a) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).
- (b) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).
- (c) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).
- (d) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.
- (e) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.
- (f) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.
- (g) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).
- (h) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.
- (i) The PM<sub>10</sub> emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
- (j) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).
- (k) The PM<sub>10</sub> emissions from each material processing stack shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
- (l) Fugitive particulate matter from the material processing facilities shall not exceed ten percent (10%) opacity.
- (m) Slag and kish handling activities at integrated iron and steel plants shall comply with the following particulate emissions limits:
  - (1) The opacity of fugitive particulate emissions from transfer from pots and trucks into pits shall not exceed twenty percent (20%) on a six (6) minute average.
  - (2) The opacity of fugitive particulate emissions from transfer from pits into front end loaders and from transfer from front end loaders into trucks shall comply with the fugitive particulate emission limits in 326 IAC 6.8-10-3(9).
- (n) Any facility or operation not specified in 326 IAC 6.8-10-3 shall meet a twenty percent (20%), three (3) minute average opacity standard.

The Permittee shall achieve these limits by controlling fugitive particulate matter emissions according to the attached Fugitive Dust Control Plan.

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

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

All required notifications shall be submitted to:

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

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

- (e) **Procedures for Asbestos Emission Control**  
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

- (f) **Demolition and Renovation**  
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

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

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

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- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance 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 certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

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

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

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Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety

(90) days of initial start-up, whichever is later. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

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

The notification which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

C.13 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.14 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.

C.15 Continuous Compliance Plan [326 IAC 6.8-8-1] [326 IAC 6.8-8-8]

- (a) Pursuant to 326 IAC 326 IAC 6.8-8-1, when located in Lake County, the Permittee shall submit to IDEM and maintain at source a copy of the Continuous Compliance Plan (CCP). The Permittee shall perform the inspections, monitoring and record keeping in accordance with the information in 326 IAC 6.8-8-5 through 326 IAC 6.8-8-7 or applicable procedures in the CCP.
- (b) Pursuant to 326 IAC 6.8-8-8, the Permittee shall update the CCP, as needed, retain a copy of any changes and updates to the CCP at the source and make the updated CCP available for inspection by the department. The Permittee shall submit the updated CCP, if required to IDEM, OAQ within thirty (30) days of the update.
- (c) Pursuant to 326 IAC 6.8-8, failure to submit a CCP, maintain all information required by the CCP at the source, or submit update to a CCP is a violation of 326 IAC 6.8-8.

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

#### **C.16 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]**

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

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

#### **C.18 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]**

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- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
  - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records; 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 maintain the following records:
  - (1) monitoring data;
  - (2) monitor performance data, if applicable; and

- (3) corrective actions taken.

**C.19 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]**

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by 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.20 Emission Statement [326 IAC 2-6]**

- (a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit an emission statement by July 1 following a calendar year when the source is located in Lake, LaPorte, or Porter Counties and emits oxides of nitrogen into the ambient air equal to or greater than twenty-five (25) tons. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

The statement must be submitted to:

Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-50 IGCN 1003  
Indianapolis, Indiana 46204-2251

The emission statement does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The emission statement 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.21 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]**

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the

Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later.

**C.22 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]**

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- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance 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) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

**Portable Source Requirement**

**C.23 Relocation of Portable Sources [326 IAC 2-14-4]**

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- (a) This permit is approved for operation in all areas of Indiana. This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2, and Emission Offset requirements in 326 IAC 2-3.
- (b) A request to relocate shall be submitted to IDEM, OAQ at least thirty (30) days prior to the intended date of relocation. This submittal shall include the following:
  - (1) A list of governmental officials entitled to receive notice of application to relocate. IC 13-15-3-1
  - (2) A list of adjacent landowners that the Permittee will send written notice to not more than ten (10) days after submission of the request to relocate. IC 13-15-8

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

The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

### **Stratospheric Ozone Protection**

#### **C.24 Compliance with 40 CFR 82 and 326 IAC 22-1**

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

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description [326 IAC 2-8-4(10)]:

- (a) One (1) portable aggregate drum dryer/mixer, identified as EU-1, approved for construction in 2010, with a maximum capacity of 400 tons of asphalt per hour, processing blast furnace and steel slag in the aggregate mix, equipped with one (1) dryer/mixer burner, having a maximum heat input capacity of 100 MMBtu per hour, firing waste oil as primary fuel, using No. 2 fuel oil, No. 4 fuel oil, natural gas, propane gas, and butane gas as backup fuels, equipped with a baghouse for particulate control, and exhausting through Stack SV1.

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

- (b) Material handling and conveying operations, approved for construction in 2010, consisting of the following:

- (1) Aggregate storage piles consisting of sand, gravel, limestone, recycled asphalt pavement, and slag;
- (2) One (1) conveyor;
- (3) Five (5) cold feed bins;
- (4) One (1) Recycled Asphalt Pavement (RAP) feed bin;
- (5) One (1) screening system; and
- (6) One (1) hot mix asphalt storage silo.

- (g) One (1) diesel fired generator, identified as EU-7, manufactured in 1989, approved for construction in 2010, with a maximum power output rate of 1,300 horsepower, and exhausting through Stack SV7.

This unit is considered an affected source under 40 CFR 63, Subpart ZZZZ.

- (h) One (1) diesel fired generator, identified as EU-8, manufactured in 1998, approved for construction in 2010, with a maximum power output rate of 95.7 horsepower, and exhausting through Stack SV8.

This unit is considered an affected source under 40 CFR 63, Subpart ZZZZ.

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

The following is a list of the Insignificant Activities:

- (a) One (1) hot oil heater, identified as EU-2, approved for construction in 2010, with a maximum heat input capacity of 1.15 MMBtu per hour, firing No. 2 fuel oil, and exhausting through Stack SV2.

(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 FESOP Limits [326 IAC 2-8-4] [326 IAC 2-1.1-5 [326 IAC 2-2]**

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

- (a) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) PM10 emissions from the dryer/mixer shall not exceed 0.157 pounds of PM10 per ton of asphalt produced.
- (c) PM2.5 emissions from the dryer/mixer shall not exceed 0.176 pounds of PM2.5 per ton of asphalt produced.
- (d) CO emissions from the dryer/mixer shall not exceed 0.13 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 100 tons per 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.1.2 Particulate Matter (PM) [326 IAC 2-2]**

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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 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) PM emissions from the dryer/mixer shall not exceed 0.375 pounds of PM per ton of asphalt produced.

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

### **D.1.3 Particulate Matter (PM) [326 IAC 6.5-1-2]**

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

### **D.1.4 Particulate [326 IAC 6.8-1-2]**

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Pursuant to 326 IAC 6.8-1-2 (Particulate Matter Limitations for Lake County), particulate matter (PM) emissions from the dryer/mixer shall not exceed 0.03 grain per dry standard cubic foot of exhaust air when the source is located in Lake County.

D.1.5 SO<sub>2</sub>, NO<sub>x</sub>, VOC, and HCl Limits [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-3] [326 IAC 2-4.1]  
[326 IAC 8-1-6]

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

- (a) Sulfur Content and Waste Oil Specifications
  - (1) The 30 day calendar month average sulfur content of the blast furnace slag shall not exceed 1.5 percent by weight, with compliance determined at the end of each month.
  - (2) SO<sub>2</sub> emissions from the blast furnace slag used in the dryer/mixer shall not exceed 0.74 pounds of SO<sub>2</sub> per ton of blast furnace slag processed.
  - (3) The sulfur content of the steel slag shall not exceed 0.66 percent by weight.
  - (4) SO<sub>2</sub> emissions from the steel slag used in the dryer/mixer shall not exceed 0.0014 pounds of SO<sub>2</sub> per ton of steel slag processed.
  - (5) The sulfur content of the No. 2 fuel oil shall not exceed 0.5 percent by weight.
  - (6) The sulfur content of the No. 4 fuel oil shall not exceed 0.5 percent by weight.
  - (7) The sulfur content of the diesel fuel shall not exceed 0.5 percent by weight.
  - (8) The sulfur content of the waste oil shall not exceed 1.0 percent by weight.
  - (9) The chlorine content of the waste oil shall not exceed 0.4 percent by weight.
  - (10) HCl emissions from the dryer/mixer shall not exceed 0.0264 pounds of HCl per gallon of waste oil burned.
- (b) SO<sub>2</sub> emissions from the dryer/mixer burner, generators, hot oil heater, and blast furnace and steel slag processing shall not exceed 99.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) NO<sub>x</sub> emissions from the dryer/mixer burner, generators, and hot oil heater shall not exceed 99.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) VOC emissions from the dryer/mixer, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold mix asphalt production shall not exceed 24.9 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (e) Liquid binder used in the production of cold mix asphalt shall be defined as follows:
  - (1) Cut back asphalt rapid cure, containing a maximum of 25.3% by weight of VOC solvent in the liquid binder and 95% by weight of VOC solvent evaporating.
  - (2) Cut back asphalt medium cure, containing a maximum of 28.6% by weight of VOC solvent in the liquid binder and 70% by weight of VOC solvent evaporating.
  - (3) Cut back asphalt slow cure, containing a maximum of 20% by weight of VOC solvent in the liquid binder and 25% by weight of VOC solvent evaporating.
  - (4) Emulsified asphalt with solvent, containing a maximum of 15% by weight of VOC

solvent in the liquid binder and 46.4% by weight of VOC solvent evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be 7% or less of the total emulsion by volume

- (5) Other asphalt with solvent binder, containing a maximum of 25.9% by weight of VOC solvent in the liquid binder and 2.5% by weight of VOC solvent evaporating. This definition applies to any other asphalt with solvent binder that does not have distillation data available as determined by ASTM Method D-402, Distillation of Cutback Asphalt Products.
  - (6) Rieth-Riley other asphalt with solvent binder, cutback asphalt that has distillation data available as determined by ASTM Method D-402, Distillation of Cutback Asphalt Products.
- (f) HCl emissions from the dryer/mixer burner, generators, and hot oil heater shall not exceed 9.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the limited potential to emit SO<sub>2</sub>, NO<sub>x</sub>, VOC, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO<sub>2</sub> and NO<sub>x</sub> to less than 100 tons per 12 consecutive month period, each, VOC to less than 25 tons per 12 consecutive month period, HCl to less than 10 tons per 12 consecutive month period, and any combination of HAPs to less than 25 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset), 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)), and 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

#### D.1.6 Sulfur Dioxide (SO<sub>2</sub>) [326 IAC 7-1.1-1][326 IAC 7-2-1]

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

- (a) The sulfur dioxide (SO<sub>2</sub>) emissions from the dryer/mixer burner shall not exceed 0.5 pounds per MMBtu when using distillate oil.
- (b) The sulfur dioxide (SO<sub>2</sub>) emissions from the dryer/mixer burner shall not exceed 1.60 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.

#### D.1.7 Volatile Organic Compound Rules for Asphalt Pavers [326 IAC 8-5-2]

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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)]

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

### Compliance Determination Requirements

#### D.1.9 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

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- (a) In order to demonstrate compliance with Conditions D.1.1(b) and D.1.1(c), the Permittee shall perform PM10 and PM2.5 testing on the dryer/mixer within 180 days of 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 within 180 days after initial startup, whichever is later. This testing shall be conducted utilizing methods as 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 Section C- Performance Testing. PM10 and PM2.5 includes filterable and condensable PM.
- (b) Within sixty (60) days after achieving maximum capacity, but not later than one hundred and eighty (180) days after initial startup, in order to demonstrate compliance with Condition D.1.2(b), the Permittee shall perform PM testing of the dryer/mixer utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration.

#### D.1.10 Particulate Control

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- (a) In order to comply with Conditions D.1.1, D.1.2, D.1.3, and D.1.4 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.1.11 Sulfur Dioxide Emissions and Sulfur Content

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- (a) Pursuant to 326 IAC 2-8-4, compliance with Condition D.1.5(a)(1) shall be determined utilizing one of the following options:
  - (1) Providing vendor analysis of blast furnace slag delivered, if accompanied by a vendor certification; or
  - (2) Analyzing a sample of the blast furnace slag delivery to determine the sulfur content of the blast furnace slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

- (b) Pursuant to 326 IAC 2-8-4, compliance with Condition D.1.5(a)(3) shall be determined utilizing one of the following options:
  - (1) Providing vendor analysis of steel slag delivered, if accompanied by a vendor

certification; or

- (2) Analyzing a sample of the steel slag delivery to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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.

- (c) Pursuant to 326 IAC 3-7-4, compliance with Conditions D.1.6(a) and D.1.6(b) shall be demonstrated utilizing one of the following options:
  - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or
  - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
    - (i) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
    - (ii) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (d) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 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 in (c) or (d) above shall not be refuted by evidence of compliance pursuant to the other method.

#### D.1.12 Asphalt, Fuel, and Slag Limitations

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In order to comply with Condition D.1.4, the Permittee shall limit asphalt production, fuel usage in the dryer/mixer burner, generators, and hot oil heater and slag usage in the dryer/mixer burner according to the following formulas:

- (a) VOC emissions from cold mix asphalt production shall be determined using the following equation:

$$V_{cm} = \left( \frac{S}{AF} \right) + \sum_{i=1}^n [C * (B/100) * (D/100) * (V/100)]$$

Where:

$V_{cm}$  = tons of VOC emissions from cold mix asphalt production in previous 12 month consecutive period;

S = tons of VOC solvent used for each binder as defined in D.1.5(e)(1) through (5) in previous 12 months; and

AF = Adjustment factor for each type of liquid binder as defined in D.1.5(e)(1) through (5);

n = total number of binders used in the production of cold mix asphalt as defined in D.1.5(e)(6);

i = each binder used in the production of cold mix asphalt as defined in D.1.5(e)(6);

C = tons of cold mix asphalt produced using each binder as defined in D.1.5(e)(6) in previous 12 months;

B = Percent of binder used in cold mix asphalt for each binder as defined in D.1.5(e)(6);  
D = Percent solvent in each binder as defined in D.1.5(e)(6); and  
V = Percent of VOC from the solvent that evaporates when heated to 500°F for each binder as defined in D.1.5(e)(6). This shall be determined by using distillation data provided by the vendor or based on a distillation test performed by the source.

Adjustment Factors:

Cutback Asphalt Rapid Cure Adjustment Factor = 1.053;  
Cutback Asphalt Medium Cure Adjustment Factor = 1.429;  
Cutback Asphalt Slow Cure Adjustment Factor = 4.0;  
Emulsified Asphalt with Liquid Binder Adjustment Factor = 2.155; and  
Other Asphalt with Liquid Binder Adjustment Factor = 40.0

(b) Total VOC emissions shall be determined using the following equation:

$$V = \frac{[A(0.032) + D_1(0.012) + D_2(0.05) + G(5.5) + F(0.2) + A(0.004)(0.94) + A(0.012) + A(0.001)(0.94)] + V_{cm}}{2000}$$

Where:

V = tons of VOC emissions for previous 12 month consecutive period;  
A = tons of asphalt produced in previous 12 months;  
D<sub>1</sub> = gallons of diesel fuel used in generator EU-4 in previous 12 months;  
D<sub>2</sub> = gallons of diesel fuel used in generator EU-5 in previous 12 months;  
G = million cubic feet of natural gas used in hot oil heater EU-2 in previous 12 months;  
F = gallons of No. 2 fuel oil used in hot oil heater EU-3 in previous 12 months; and  
V<sub>cm</sub> = tons of VOC emissions from cold mix asphalt production in previous 12 month consecutive period.

Emission Factors:

Dryer/Mixer = 0.0032 pounds per ton of asphalt;  
Diesel Fuel (generator EU-4) = 0.012 pounds per gallon of diesel fuel;  
Diesel Fuel (generator EU-5) = 0.05 pounds per gallon of diesel fuel;  
Natural Gas (hot oil heater EU-2) = 5.5 pounds per million cubic feet of natural gas;  
No. 2 Fuel Oil (hot oil heater EU-3) = 0.2 pounds per gallon of No. 2 fuel oil;  
Asphalt Load-Out = 0.004 pounds per ton of asphalt, 94 percent VOC;  
Silo Filling = 0.012 pounds per ton of asphalt; and  
On-site Yard = 0.001 pounds per ton of asphalt, 94 percent VOC.

(c) Waste oil usage with respect to the actual sulfur content shall be determined using the following equation:

$$U = \sum_{e=1}^d (W_A * S_A)$$

Where:

U = waste oil usage in previous 12 consecutive months;  
d = total number of waste oil deliveries;  
e = each specific waste oil delivery;  
W<sub>A</sub> = actual gallons of waste oil used from each specific waste oil delivery; and  
S<sub>A</sub> = actual percent by weight sulfur content of waste oil for each specific waste oil delivery.

- (d) When the 30 day calendar month average sulfur content is less than or equal to 1.11 percent by weight, the blast furnace slag usage shall be determined using the following equation:

$$L = \sum_{i=1}^m (J)$$

Where:

L = blast furnace slag usage in previous 12 consecutive months with an average sulfur content less than or equal to 1.11 percent by weight;  
m = total number of months where the 30 day calendar month average sulfur content is less than or equal to 1.11 percent by weight;  
i = each specific month where the 30 day calendar month average sulfur content is less than or equal to 1.11 percent by weight; and  
J = actual tons of blast furnace slag used per month where the 30 day calendar month average sulfur content is less than or equal to 1.11 percent by weight.

- (e) When the 30 day calendar month average sulfur content is greater than 1.11 percent by weight, the blast furnace slag usage shall be determined using the following equation:

$$X = \sum_{b=1}^a (K)$$

Where:

X = blast furnace slag usage in previous 12 consecutive months with an average sulfur content greater than 1.11 percent by weight;  
a = total number of months where the 30 day calendar month average sulfur content is greater than 1.11 percent by weight;  
b = each specific month where the 30 day calendar month average sulfur content is greater than 1.11 percent by weight; and  
K = actual tons of blast furnace slag used per month where the 30 day calendar month average sulfur content is greater than 1.11 percent by weight.

- (f) Sulfur dioxide (SO<sub>2</sub>) emissions shall be determined using the following equation:

$$S = \frac{[D(0.0792) + I(0.04) + H(0.071) + G(0.6) + O(0.0785) + F(0.075) + P(0.00002) + B(0.00002) + U(0.147) + A(0.0014) + L(0.5413) + X(0.74)]}{2000}$$

Where:

S = tons of sulfur dioxide emissions for previous 12 consecutive month period;  
D = gallons of diesel fuel used in generator EU-7 in previous 12 months;  
I = gallons of diesel fuel used in generator EU-8 in previous 12 months;  
H = gallons of No. 2 fuel oil used in hot oil heater in previous 12 months;  
G = million cubic feet of natural gas used in dryer/mixer in previous 12 months;  
O = gallons of No. 2 fuel oil used in dryer/mixer in previous 12 months;  
F = gallons of No. 4 fuel oil used in dryer/mixer in previous 12 months;  
P = gallons of propane used in dryer/mixer in previous 12 months;  
B = gallons of butane used in dryer/mixer in previous 12 months;  
U = gallons of waste oil as defined by Condition D.1.12(b);  
A = tons of steel slag used in dryer/mixer in previous 12 months;  
L = tons of blast furnace slag as defined by Condition D.1.12(d); and  
X = tons of blast furnace slag as defined by Condition D.1.12(e).

Emission Factors:

Diesel Fuel (generator EU-7) = 0.0792 pounds per gallon of diesel fuel;  
Diesel Fuel (generator EU-8) = 0.04 pounds per gallon of diesel fuel;  
No. 2 Fuel Oil (hot oil heater) = 0.071 pounds per gallon of No. 2 fuel oil;  
Natural Gas (dryer/mixer) = 0.6 pounds per million cubic feet of natural gas;  
No. 2 Fuel Oil (dryer/mixer) = 0.0785 pounds per gallon of No. 2 fuel oil;  
No. 4 Fuel Oil (dryer/mixer) = 0.075 pounds per gallon of No. 4 fuel oil;  
Propane (dryer/mixer) = 0.00002 pounds per gallon of propane;  
Butane (dryer/mixer) = 0.00002 pounds per gallon of butane;  
Waste Oil (dryer/mixer) = 0.147 pounds per gallon of waste oil;  
Steel Slag = 0.0014 pounds per ton of steel slag processed; and  
Blast Furnace Slag = 0.5413 pounds per ton of blast furnace slag processed, with a 30 day calendar month average sulfur content less than or equal to 1.11 percent by weight or 0.74 pounds per ton of blast furnace slag processed, with a 30 day calendar month average sulfur content greater than 1.11 percent by weight.

- (g) Nitrogen oxide (NO<sub>x</sub>) emissions shall be determined using the following equation:

$$N = \frac{[D(0.47) + I(0.61) + H(0.02) + G(190) + O(0.024) + F(0.047) + P(0.015) + B(0.013) + U(0.019)]}{2000}$$

Where:

N = tons of nitrogen oxide emissions for previous 12 consecutive month period;  
D = gallons of diesel fuel used in generator EU-7 in previous 12 months;  
I = gallons of diesel fuel used in generator EU-8 in previous 12 months;  
H = gallons of No. 2 fuel oil used in hot oil heater in previous 12 months;  
G = million cubic feet of natural gas used in dryer/mixer in previous 12 months;  
O = gallons of No. 2 fuel oil used in dryer/mixer in previous 12 months;  
F = gallons of No. 4 fuel oil used in dryer/mixer in previous 12 months;  
P = gallons of propane used in dryer/mixer in previous 12 months;  
B = gallons of butane used in dryer/mixer in previous 12 months; and  
U = gallons of waste oil used in dryer/mixer in previous 12 months.

Emission Factors

Diesel Fuel (generator EU-7) = 0.47 pounds per gallon of diesel fuel;  
Diesel Fuel (generator EU-8) = 0.61 pounds per gallon of diesel fuel;  
No. 2 Fuel Oil (hot oil heater) = 0.02 pounds per gallon of No. 2 fuel oil;  
Natural Gas (dryer/mixer) = 190 pounds per million cubic feet of natural gas;  
No. 2 Fuel Oil (dryer/mixer) = 0.024 pounds per gallon of No. 2 fuel oil;  
No. 4 Fuel Oil (dryer/mixer) = 0.047 pounds per gallon of No. 4 fuel oil;  
Propane (dryer/mixer) = 0.015 pounds per gallon of propane;  
Butane (dryer/mixer) = 0.013 pounds per gallon of butane; and  
Waste Oil (dryer/mixer) = 0.019 pounds per gallon of waste oil.

- (h) Waste oil usage with respect to the actual chlorine content shall be determined using the following equation:

$$U = \sum_{k=1}^n (W_A * Cl_A)$$

Where:

U = waste oil usage in previous 12 consecutive months;  
n = total number of waste oil deliveries;

k = each specific waste oil delivery;  
WA = actual gallons of waste oil used from each specific waste oil delivery; and  
Cl<sub>A</sub> = actual percent by weight chlorine content of waste oil for each specific waste oil delivery.

- (i) Hydrogen Chloride (HCl) emissions shall be determined using the following equation:

$$HCl = \frac{U(0.066)}{2000}$$

Where:

HCl = tons of hydrogen chloride emissions for previous 12 consecutive month period; and  
U = gallons of waste oil as defined in Condition D.1.12(h).

Emission Factor:

Waste Oil = 0.066 pounds per gallon of waste oil.

#### D.1.13 Cold Mix Asphalt Content

In order to comply with Condition D.1.5(e)(6), the Permittee shall demonstrate the percent of VOC from the solvent that evaporates in the binder when heated to 500°F for each binder used in the production of cold mix asphalt as defined in D.1.5(e)(6) as follows:

- (a) Providing distillation data as determined by ASTM Method D-402, Distillation of Cutback Asphalt Products for the binder, if accompanied by a vendor certification; or
- (b) Analyzing a sample of the binder to determine the percent of VOC from the solvent that evaporates in the binder when heated to 500°F, utilizing ASTM Method D-402, Distillation of Cutback Asphalt Products or other procedures approved by IDEM, OAQ.

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

#### D.1.14 Hydrogen Chloride (HCl) Emissions and Chlorine Content

In order to comply with Condition D.1.5(a)(7), the Permittee shall demonstrate that the chlorine content of the waste oil combusted in the dryer/mixer does not exceed 0.4 percent by weight, by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.

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

#### D.1.15 Visible Emissions Notations

- (a) Visible emission notations of the dryer/mixer stack (S-1) 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 in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

#### D.1.16 Parametric Monitoring

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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 1.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

#### D.1.17 Broken or Failed Bag Detection

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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.1.18 Record Keeping Requirements

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- (a) To document compliance with Conditions D.1.1(a), D.1.2(a), and D.1.5(d) the Permittee shall keep monthly records of the amount of asphalt processed through the dryer/mixer.
- (b) To document compliance with Conditions D.1.5 and D.1.6, 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 Conditions D.1.5 and D.1.6.
  - (1) Calendar dates covered in the compliance determination period;
  - (2) Actual blast furnace and steel slag usage, sulfur content and equivalent sulfur dioxide emission rates for all blast furnace and steel slag used at the source since the last compliance determination period;

- (3) A certification, signed by the owner or operator, that the records of the blast furnace and steel slag supplier certifications represent all of the blast furnace and steel slag used during the period; and
  - (4) If the blast furnace and steel slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
    - (i) Blast furnace and steel slag supplier certifications;
    - (ii) The name of the blast furnace and steel slag supplier; and
    - (iii) A statement from the blast furnace and steel slag supplier that certifies the sulfur content of the blast furnace and steel slag.
  - (5) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide and nitrogen oxide emission rates for each fuel used at the source since the last compliance determination period;
  - (6) Actual waste oil usage, chlorine content, and equivalent hydrogen chloride emission rate for waste oil used at the source since the last compliance determination period;
  - (7) 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
  - (8) 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, diesel fuel, and waste oil, and the chlorine content of waste oil.
- (c) To document compliance with Condition D.1.5(e)(1) through (5), the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.1.5(e)(1) through (5).
- (1) Calendar dates covered in the compliance determination period;
  - (2) Cutback asphalt binder usage in the production of cold mix asphalt since the last compliance determination period;
  - (3) VOC solvent content by weight of the cutback asphalt binder used in the production of cold mix asphalt since the last compliance determination period; and
  - (4) Amount of VOC solvent used in the production of cold mix asphalt, and the amount of VOC emitted since the last compliance determination period.

Records may include: delivery tickets, manufacturer's data, material safety data sheets (MSDS), and other documents necessary to verify the type and amount used. Test

results of ASTM tests for asphalt cutback and asphalt emulsion may be used to document volatilization.

- (d) To document compliance with Condition D.1.5(e)(6), the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.1.5(e)(6).
- (1) Calendar dates covered in the compliance determination period;
  - (2) Mix temperature of cold mix asphalt produced since the last compliance determination period;
  - (3) Amount of cold mix asphalt produced since the last compliance determination period;
  - (4) Percent of cutback asphalt binder used in the production of cold mix asphalt since the last compliance determination period;
  - (5) Percent of solvent in the cutback asphalt binder used in the production of cold mix asphalt since the last compliance determination period; and
  - (6) Evaporation rate of the solvent in the cutback asphalt binder used in production of cold mix asphalt since the last compliance determination period and the amount of VOC emitted since the last compliance determination period.

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

- (e) To document compliance with Condition D.1.15, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack (S-1) 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 compliance with Condition D.1.16, 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) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.1.19 Reporting Requirements

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

## SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

### **Emissions Unit Description [326 IAC 2-8-4(10)]:**

- (d) One (1) liquid asphalt cement storage tank, identified as EU-4, approved for construction in 2010, with a maximum storage capacity of 31,000 gallons.
- (e) One (1) waste oil storage tank, identified as EU-5, approved for construction in 2010, with a maximum storage capacity of 20,000 gallons.
- (h) One (1) No. 2 fuel oil storage tank, identified as EU-6, approved for construction in 2010, with a maximum storage capacity of 15,000 gallons.

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

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

#### **D.2.1 Volatile Organic Liquid Storage Vessels [326 IAC 8-9]**

Pursuant to 326 IAC 8-9-6 (Volatile Organic Liquid Storage Vessels), the Permittee shall record and submit to IDEM, OAQ a report containing the following information for EU-4, EU-5 and EU-6 when the source is located in Clark or Floyd Counties:

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

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

## SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description [326 IAC 2-8-4(10)]:

- (a) One (1) portable aggregate drum dryer/mixer, identified as EU-1, approved for construction in 2010, with a maximum capacity of 400 tons of asphalt per hour, processing blast furnace and steel slag in the aggregate mix, equipped with one (1) dryer/mixer burner, having a maximum heat input capacity of 100 MMBtu per hour, firing waste oil as primary fuel, using No. 2 fuel oil, No. 4 fuel oil, natural gas, propane gas, and butane gas as backup fuels, equipped with a baghouse for particulate control, and exhausting through Stack SV1.

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

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

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

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

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- (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]

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

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

## SECTION E.2 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description [326 IAC 2-8-4(10)]:

- (g) One (1) diesel fired generator, identified as EU-7, manufactured in 1989, approved for construction in 2010, with a maximum power output rate of 1,300 horsepower, and exhausting through Stack SV7.

This unit is considered an affected source under 40 CFR 63, Subpart ZZZZ.

- (h) One (1) diesel fired generator, identified as EU-8, manufactured in 1998, approved for construction in 2010, with a maximum power output rate of 95.7 horsepower, and exhausting through Stack SV8.

This unit is considered an affected source under 40 CFR 63, Subpart ZZZZ.

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

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

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

Pursuant to 40 CFR 63, 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, except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

#### E.2.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ]

The Permittee, which owns or operates stationary reciprocating internal combustion engines at an area source of HAP emissions shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment C of this permit):

- (a) 40 CFR 63.6580
- (b) 40 CFR 63.6585(a), (c), and (d)
- (c) 40 CFR 63.6590(a)(2)(iii) and (c)
- (d) 40 CF 63.6665
- (e) 40 CFR 63.6675

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

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

Source Name: Rieth-Riley Construction Co., Inc.  
Initial Source Address: 1751 West Minnesota Street, Indianapolis, Indiana 46221  
Mailing Address: PO Box 477, Goshen, Indiana 46527  
FESOP Permit No.: F097-27199-05319

**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: Rieth-Riley Construction Co., Inc.  
Initial Source Address: 1751 West Minnesota Street, Indianapolis, Indiana 46221  
Mailing Address: PO Box 477, Goshen, Indiana 46527  
FESOP Permit No.: F097-27199-05319

**This form consists of 2 pages**

**Page 1 of 2**

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

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

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

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

Page 2 of 2

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

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

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

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

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

A certification is not required for this report.

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

**FESOP Quarterly Report  
 Page 1 of 3**

Source Name: Rieth-Riley Construction Co., Inc.  
 Initial Source Address: 1751 West Minnesota Street, Indianapolis, Indiana 46221  
 Mailing Address: PO Box 477, Goshen, Indiana 46527  
 FESOP Permit No.: F097-27199-05319  
 Facility: Dryer/mixer burner, generators, hot oil heater, and blast furnace and steel slag processing  
 Parameter: SO2 and NOx emissions  
 Limit: SO2 emissions from the dryer/mixer burner, generators, hot oil heater, and blast furnace and steel slag processing shall not exceed 99.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month; and  
 NOx emissions from the dryer/mixer burner, generators, and hot oil heater shall not exceed 99.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

$$S = \frac{[D(0.0792) + I(0.04) + H(0.071) + G(0.6) + O(0.0785) + F(0.075) + P(0.00002) + B(0.00002) + U(0.147) + A(0.0014) + L(0.5413) + X(0.74)]}{2000}$$

<p><u>Where:</u>                  S = tons of sulfur dioxide emissions for previous 12 consecutive month period;                  D = gallons of diesel fuel used in generator EU-7 in previous 12 months;                  I = gallons of diesel fuel used in generator EU-8 in previous 12 months;                  H = gallons of No. 2 fuel oil used in hot oil heater in previous 12 months;                  G = million cubic feet of natural gas used in dryer/mixer in previous 12 months;                  O = gallons of No. 2 fuel oil used in dryer/mixer in previous 12 months;                  F = gallons of No. 4 fuel oil used in dryer/mixer in previous 12 months;                  P = gallons of propane used in dryer/mixer in previous 12 months;                  B = gallons of butane used in dryer/mixer in previous 12 months;                  U = gallons of waste oil as defined by Condition D.1.12(a);                  A = tons of steel slag used in dryer/mixer in previous 12 months;                  L = tons of blast furnace slag as defined by Condition D.1.12(d); and                  X = tons of blast furnace slag as defined by Condition D.1.12(e).</p>	<p><u>Emission Factors:</u>                  Diesel Fuel (generator EU-7) = 0.0792 lbs/gal of diesel fuel;                  Diesel Fuel (generator EU-8) = 0.04 lbs/gal of diesel fuel;                  No. 2 Fuel Oil (hot oil heater) = 0.071 lbs/gal of No. 2 fuel oil;                  Natural Gas (dryer/mixer) = 0.6 lbs/MMcf of natural gas;                  No. 2 Fuel Oil (dryer/mixer) = 0.0785 lbs/gal of No. 2 fuel oil;                  No. 4 Fuel Oil (dryer/mixer) = 0.075 lbs/gal of No. 4 fuel oil;                  Propane (dryer/mixer) = 0.00002 lbs/gal of propane;                  Butane (dryer/mixer) = 0.00002 lbs/gal of butane;                  Waste Oil (dryer/mixer) = 0.147 lbs/gal of waste oil;                  Steel Slag = 0.0014 lbs/ton of steel slag processed; and                  Blast Furnace Slag = 0.5413 lbs/ton of blast furnace slag processed, with a sulfur content ≤ 1.11 percent by weight or 0.74 lbs/ton of blast furnace slag processed, with a sulfur content &gt; 1.11 percent by weight.</p>
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Nitrogen oxide (NOx) emissions shall be determined using the following equation:

$$N = \frac{[D(0.47) + I(0.61) + H(0.02) + G(190) + O(0.024) + F(0.047) + P(0.015) + B(0.013) + U(0.019)]}{2000}$$

<p><u>Where:</u>                  N = tons of nitrogen oxide emissions for previous 12 consecutive month period;                  D = gallons of diesel fuel used in generator EU-7 in previous 12 months;                  I = gallons of diesel fuel used in generator EU-8 in previous 12 months;                  H = gallons of No. 2 fuel oil used in hot oil heater in previous 12 months;                  G = million cubic feet of natural gas used in dryer/mixer in previous 12 months;                  O = gallons of No. 2 fuel oil used in dryer/mixer in previous 12 months;                  F = gallons of No. 4 fuel oil used in dryer/mixer in previous 12 months;                  P = gallons of propane used in dryer/mixer in previous 12 months;                  B = gallons of butane used in dryer/mixer in previous 12 months; and                  U = gallons of waste oil used in dryer/mixer in previous 12 months.</p>	<p><u>Emission Factors</u>                  Diesel Fuel (generator EU-7) = 0.47 lbs/gal of diesel fuel;                  Diesel Fuel (generator EU-8) = 0.61 lbs/gal of diesel fuel;                  No. 2 Fuel Oil (hot oil heater) = 0.02 lbs/gal of No. 2 fuel oil;                  Natural Gas (dryer/mixer) = 190 lbs/MMcf of natural gas;                  No. 2 Fuel Oil (dryer/mixer) = 0.024 lbs/gal of No. 2 fuel oil;                  No. 4 Fuel Oil (dryer/mixer) = 0.047 lbs/gal of No. 4 fuel oil;                  Propane (dryer/mixer) = 0.015 lbs/gal of propane;                  Butane (dryer/mixer) = 0.013 lbs/gal of butane; and                  Waste Oil (dryer/mixer) = 0.019 lbs/gal of waste oil.</p>
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FESOP Fuel Usage, Slag Usage, and SO2 and NOx Emissions Quarterly Reporting Form

Quarter: \_\_\_\_\_ Year: \_\_\_\_\_

Month	Fuel Types (units)	Column 1	Column 2	Column 1 + Column 2	Total SO2 Emissions From All Fuels and Slag Used (tons per 12 month consecutive period)	Total NOx Emissions From All Fuels Used (tons per 12 month consecutive period)
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total		
Month 1	Diesel fuel EU-7 (gallons)					
	Diesel fuel EU-8 (gallons)					
	No. 2 fuel oil (Hot Oil Heater) (gallons)					
	Natural gas (mmcf)					
	No. 2 fuel oil (gallons)					
	No. 4 fuel oil (gallons)					
	Propane (gallons)					
	Butane (gallons)					
	Waste oil (gallons)					
	Steel Slag (tons)					
	Blast Furnace Slag (tons)					
	Average sulfur content blast furnace slag (%)					
Month 2	Diesel fuel EU-7 (gallons)					
	Diesel fuel EU-8 (gallons)					
	No. 2 fuel oil (Hot Oil Heater) (gallons)					
	Natural gas (mmcf)					
	No. 2 fuel oil (gallons)					
	No. 4 fuel oil (gallons)					
	Propane (gallons)					
	Butane (gallons)					
	Waste oil (gallons)					
	Steel Slag (tons)					
	Blast Furnace Slag (tons)					
	Average sulfur content blast furnace slag (%)					
Month 3	Diesel fuel EU-7 (gallons)					
	Diesel fuel EU-8 (gallons)					
	No. 2 fuel oil (Hot Oil Heater) (gallons)					
	Natural gas (mmcf)					
	No. 2 fuel oil (gallons)					
	No. 4 fuel oil (gallons)					
	Propane (gallons)					
	Butane (gallons)					
	Waste oil (gallons)					
	Steel Slag (tons)					
	Blast Furnace Slag (tons)					
	Average sulfur content blast furnace slag (%)					

FESOP Fuel Usage, Slag Usage, and SO2 and NOx Emissions Quarterly Reporting Form

Page 3 of 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: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**FESOP Quarterly Report**

Source Name: Rieth-Riley Construction Co., Inc.  
 Initial Source Address: 1751 West Minnesota Street, Indianapolis, Indiana 46221  
 Mailing Address: PO Box 477, Goshen, Indiana 46527  
 FESOP Permit No.: F097-27199-05319  
 Facility: Drum dryer/mixer  
 Parameter: HCl emissions  
 Limit: HCl emissions dryer/mixer burner, generators, and hot oil heater shall not exceed 9.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Hydrogen Chloride (HCl) emissions shall be determined using the following equation:

$$HCl = \frac{U(0.066)}{2000}$$

<p><u>Where:</u>          HCl = tons of hydrogen chloride emissions for previous 12 consecutive month period; and          U = gallons of waste oil as defined in Condition D.1.12(h).</p>	<p><u>Emission Factor:</u>          Waste Oil = 0.066 pounds per gallon of waste oil.</p>
--	---

**Quarter:** \_\_\_\_\_ **Year:** \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2	Total HCl Emissions From Waste Oil Used (tons per 12 month consecutive period)
	Usage This Month	Usage Previous 11 Months	Usage 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: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**FESOP Quarterly Report**

Source Name: Rieth-Riley Construction Co., Inc.  
Initial Source Address: 1751 West Minnesota Street, Indianapolis, Indiana 46221  
Mailing Address: PO Box 477, Goshen, Indiana 46527  
FESOP Permit No.: F097-27199-05319  
Facility: Drum dryer/mixer  
Parameter: Hot mix asphalt production  
Limit: The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

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: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**FESOP Quarterly Report  
 Page 1 of 4**

Source Name: Rieth-Riley Construction Co., Inc.  
 Initial Source Address: 1751 West Minnesota Street, Indianapolis, Indiana 46221  
 Mailing Address: PO Box 477, Goshen, Indiana 46527  
 FESOP Permit No.: F097-27199-05319  
 Facility: Dryer/mixer, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold-mix asphalt production  
 Parameter: VOC emissions  
 Limit: VOC emissions from the dryer/mixer, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold mix asphalt production shall not exceed 24.9 tons per twelve (12) consecutive month period with compliance determined at the end of each month. VOC emissions shall be determined using the following equations:

$$V_{cm} = \left( \frac{S}{AF} \right) + \sum_{i=1}^n [C * (B/100) * (D/100) * (V/100)]$$

**Where:**

$V_{cm}$  = tons of VOC emissions from cold mix asphalt production in previous 12 month consecutive period;  
 S = tons of VOC solvent used for each binder as defined in D.1.5(e)(1) through (5) in previous 12 months; and  
 AF = Adjustment factor for each type of liquid binder as defined in D.1.5(e)(1) through (5);  
 n = total number of binders used in the production of cold mix asphalt as defined in D.1.5(e)(6);  
 i = each binder used in the production of cold mix asphalt as defined in D.1.5(e)(6);  
 C = tons of cold mix asphalt produced using each binder as defined in D.1.5(e)(6) in previous 12 months;  
 B = Percent of binder used in cold mix asphalt for each binder as defined in D.1.5(e)(6);  
 D = Percent solvent in each binder as defined in D.1.5(e)(6); and  
 V = Percent of VOC from the solvent that evaporates when heated to 500°F for each binder as defined in D.1.5(e)(6). This shall be determined by using distillation data provided by the vendor or based on a distillation test performed by the source.

**Adjustment Factors:**

Cutback Asphalt Rapid Cure Adjustment Factor = 1.053;  
 Cutback Asphalt Medium Cure Adjustment Factor = 1.429;  
 Cutback Asphalt Slow Cure Adjustment Factor = 4.0;  
 Emulsified Asphalt with Liquid Binder Adjustment Factor = 2.155; and  
 Other Asphalt with Liquid Binder Adjustment Factor = 40.0

$$V = \frac{[A(0.032) + D_1(0.012) + D_2(0.05) + G(5.5) + F(0.2) + A(0.004)(0.94) + A(0.012) + A(0.001)(0.94)]}{2000} + V_{cm}$$

**Where:**

V = tons of VOC emissions for previous 12 month consecutive period;  
 A = tons of asphalt produced in previous 12 months;  
 $D_1$  = gallons of diesel fuel used in generator EU-4 in previous 12 months;  
 $D_2$  = gallons of diesel fuel used in generator EU-5 in previous 12 months;  
 G = million cubic feet of natural gas used in hot oil heater EU-2 in previous 12 months;  
 F = gallons of No. 2 fuel oil used in hot oil heater EU-3 in previous 12 months; and  
 $V_{cm}$  = tons of VOC emissions from cold mix asphalt production in previous 12 month consecutive period.

**Emission Factors:**

Dryer/Mixer = 0.0032 pounds per ton of asphalt;  
 Diesel Fuel (generator EU-4) = 0.012 pounds per gallon of diesel fuel;  
 Diesel Fuel (generator EU-5) = 0.05 pounds per gallon of diesel fuel;  
 Natural Gas (hot oil heater EU-2) = 5.5 pounds per million cubic feet of natural gas;  
 No. 2 Fuel Oil (hot oil heater EU-3) = 0.2 pounds per gallon of No. 2 fuel oil;  
 Asphalt Load-Out = 0.004 pounds per ton of asphalt, 94 percent VOC;  
 Silo Filling = 0.012 pounds per ton of asphalt; and  
 On-site Yard = 0.001 pounds per ton of asphalt, 94 percent VOC.

FESOP Cold Mix Asphalt Usage and VOC Emissions Quarterly Reporting Form

Quarter: \_\_\_\_\_ Year: \_\_\_\_\_

Month	Type of Liquid Binder	Solvent Usage This Month (tons)	Adjustment Factor	VOC Emissions From Each Binder This Month (tons)	VOC Emissions From Cold Mix This Month (tons)	VOC Emissions From Cold Mix Previous 11 Months (tons)	VOC Emissions From Cold Mix 12 Month Total (tons)
Month 1	Cut back asphalt rapid cure		1.053				
	Cut back asphalt medium cure		1.429				
	Cut back asphalt slow cure		4.0				
	Emulsified asphalt		2.155				
	Other asphalt		40.0				
Month 2	Cut back asphalt rapid cure		1.053				
	Cut back asphalt medium cure		1.429				
	Cut back asphalt slow cure		4.0				
	Emulsified asphalt		2.155				
	Other asphalt		40.0				
Month 3	Cut back asphalt rapid cure		1.053				
	Cut back asphalt medium cure		1.429				
	Cut back asphalt slow cure		4.0				
	Emulsified asphalt		2.155				
	Other asphalt		40.0				

FESOP Cold Mix Asphalt Usage and VOC Emissions Quarterly Reporting Form

Quarter: \_\_\_\_\_ Year: \_\_\_\_\_

**Rieth-Riley other asphalt with solvent binder**

Month	Name of Liquid Binder	Cold Mix Asphalt Produced Using Binder (tons)	Binder Usage This Month (tons)	Solvent Usage This Month (tons)	Evaporation Rate of Solvent When Heated to 500°F (%)	VOC Emissions From Each Binder This Month (tons)	VOC Emissions From Cold Mix This Month (tons)	VOC Emissions From Cold Mix Previous 11 Months (tons)	VOC Emissions From Cold Mix 12 Month Total (tons)
Month 1									
Month 2									
Month 3									

FESOP Cold Mix Asphalt Usage and VOC Emissions Quarterly Reporting Form

Quarter: \_\_\_\_\_ Year: \_\_\_\_\_

Month	Material/Fuel Types (units)	Column 1	Column 2	Column 1 + Column 2	Total VOC Emissions (tons per 12 month consecutive period)
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	
Month 1	Asphalt produced (tons)				
	Diesel fuel EU-4 (gallons)				
	Diesel fuel EU-5 (gallons)				
	Natural gas EU-2 (mmcf)				
	No. 2 fuel oil EU-3 (gallons)				
	Cold Mix Asphalt				
Month 2	Asphalt Produced (tons)				
	Diesel fuel EU-4 (gallons)				
	Diesel fuel EU-5 (gallons)				
	Natural gas EU-2 (mmcf)				
	No. 2 fuel oil EU-3 (gallons)				
	Cold Mix Asphalt				
Month 3	Asphalt Produced (tons)				
	Diesel fuel EU-4 (gallons)				
	Diesel fuel EU-5 (gallons)				
	Natural gas EU-2 (mmcf)				
	No. 2 fuel oil EU-3 (gallons)				
	Cold Mix Asphalt				

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.  
 Deviation has been reported on: \_\_\_\_\_

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

Attach a signed certification to complete this report.

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

Source Name: Rieth-Riley Construction Co., Inc.  
 Initial Source Address: 1751 West Minnesota Street, Indianapolis, Indiana 46221  
 Mailing Address: PO Box 477, Goshen, Indiana 46527  
 FESOP Permit No.: F097-27199-05319

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

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

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

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

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

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

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

Attach a signed certification to complete this report.

Mail to: Permit Administration & Support Section  
Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

Rieth-Riley Construction Co., Inc.  
1751 West Minnesota Street  
Indianapolis, Indiana 46221

Affidavit of Construction

I, \_\_\_\_\_, being duly sworn upon my oath, depose and say:  
(Name of the Authorized Representative)

1. I live in \_\_\_\_\_ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of \_\_\_\_\_ for \_\_\_\_\_  
(Title) (Company Name)
3. By virtue of my position with \_\_\_\_\_, I have personal  
(Company Name)  
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of \_\_\_\_\_  
(Company Name)
4. I hereby certify that Rieth-Riley Construction Co., Inc. 1751 West Minnesota Street, Indianapolis, Indiana 46221, completed construction of the portable drum mix hot asphalt plant on \_\_\_\_\_ in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on December 1, 2008 and as permitted pursuant to New Source Construction Permit and Federally Enforceable State Operating Permit No. F097-27199-05319, Plant ID No. 097-05319 issued on \_\_\_\_\_.
5. **Permittee, please cross out the following statement if it does not apply:** Additional (operations/facilities) were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature \_\_\_\_\_  
Date \_\_\_\_\_

STATE OF INDIANA)  
)SS

COUNTY OF \_\_\_\_\_ )

Subscribed and sworn to me, a notary public in and for \_\_\_\_\_ County and State of Indiana  
on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_. My Commission expires: \_\_\_\_\_.

Signature \_\_\_\_\_  
Name \_\_\_\_\_ (typed or printed)

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

**Attachment A**

**Rieth-Riley Construction Company, Inc.  
1751 Minnesota Street, Indianapolis, IN**

**Fugitive Dust Control Plan**

- 1: Fugitive particulate matter (dust) emissions from paved roads, unpaved roads, and parking lots shall be controlled by one or more of the following measures:
  - A: Paved Roads and parking lots:
    - a: Cleaning by vacuum sweeping on an as needed basis (monthly at a minimum).
    - b: Power brooming while wet either from rain or application of water.
  - B: Unpaved roads and parking lots:
    - a: Paving with asphalt.
    - b: Treating with emulsified asphalt on an as needed basis.
    - c: Treating with water on an as needed basis.
    - d: Double chip and seal the road surface and maintain on an as needed basis.
- 2: Fugitive particulate matter (dust) emissions from aggregate stockpiles shall be controlled by one or more of the following measures:
  - A: Maintain minimum size and number of stock piles of aggregate.
  - B: Treating around the stockpile area with emulsified asphalt on an as needed basis.
  - C: Treating around the stockpile area with water on an as needed basis.
  - D: Treating the stockpiles with water on an as needed basis.
- 3: Fugitive particulate matter (dust) emissions from outdoor conveying of aggregates shall be controlled by the following measure:
  - A: Apply water at the feed and the immediate points on an as needed basis.
- 4: Fugitive particulate matter (dust) emissions resulting from the transferring of aggregates shall be controlled by one or more of the following measures:
  - A: Minimum the vehicular distance between transfer points.
  - B: Enclose the transfer points.
  - C: Apply water on transfer points on an as needed basis.
- 5: Fugitive particulate matter (dust) emissions resulting from transportation of aggregate by truck, front end loader, etc...shall be controlled by one or more of the following measures:
  - A: Tarping the aggregate hauling vehicles.
  - B: Maintain vehicle bodies in a condition to prevent leakage.
  - C: Spray the aggregates with water.
  - D: Maintain a 10 mile per hour speed limit in the yard.

- 6: Fugitive particulate matter (dust) emissions resulting from the loading and unloading of aggregates shall be controlled by one or more of the following measures:
- A: Reduce free fall distance to a minimum.
  - B: Reduce the rate of discharge of the aggregate.
  - C: Spray the aggregate with water on an as needed basis.

"An as needed basis," means the frequency or quantity of application necessary to minimize visible particulate matter emissions.

This plan will be implemented within 90 days of the issuance of the permit.

Operator: Plant Operator

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

**Attachment B**

**Title 40: Protection of Environment**

**Subpart I—Standards of Performance for Hot Mix Asphalt Facilities**

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

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

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

**§ 60.91 Definitions.**

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

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

[51 FR 12325, Apr. 10, 1986]

**§ 60.92 Standard for particulate matter.**

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

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

**§ 60.93 Test methods and procedures.**

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

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

[54 FR 6667, Feb. 14, 1989]

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

**Attachment C**

**Title 40: Protection of Environment**

**Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**

**Source:** 69 FR 33506, June 15, 2004, unless otherwise noted.

**What This Subpart Covers**

**§ 63.6580 What is the purpose of subpart ZZZZ?**

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

**§ 63.6585 Am I subject to this subpart?**

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

**§ 63.6590 What parts of my plant does this subpart cover?**

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraph (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(h).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions; or

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an

annual basis must meet the initial notification requirements of §63.6645(h) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) A stationary RICE which is an existing spark ignition 4 stroke rich burn (4SRB) stationary RICE located at an area source, an existing spark ignition 4SRB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source, an existing spark ignition 2 stroke lean burn (2SLB) stationary RICE, an existing spark ignition 4 stroke lean burn (4SLB) stationary RICE, an existing compression ignition (CI) stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, does not have to meet the requirements of this subpart and of subpart A of this part. No initial notification is necessary.

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that is a new or reconstructed stationary RICE located at an area source, or is a new or reconstructed stationary RICE located at a major source of HAP emissions and is a spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of less than 500 brake HP, a spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of less than 250 brake HP, or a 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP, a stationary RICE with a site rating of less than or equal to 500 brake HP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP, or a compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP, must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008]

### **§ 63.6595 When do I have to comply with this subpart?**

(a) *Affected Sources.* (1) If you have an existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008]

### **Emission and Operating Limitations**

#### **§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?**

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a and 2a to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE, an existing 4SLB stationary RICE, or an existing CI stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

[73 FR 3605, Jan. 18, 2008]

#### **§ 63.6601 What emission limitations must I meet if I own or operate a 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than 500 brake HP located at a major source of HAP emissions?**

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008]

## General Compliance Requirements

### § 63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times, except during periods of startup, shutdown, and malfunction.

(b) If you must comply with emission limitations and operating limitations, you must operate and maintain your stationary RICE, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during startup, shutdown, and malfunction.

## Testing and Initial Compliance Requirements

### § 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

**§ 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?**

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008]

**§ 63.6615 When must I conduct subsequent performance tests?**

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

**§ 63.6620 What performance tests and other procedures must I use?**

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements in §63.7(e)(1) and under the specific conditions that this subpart specifies in Table 4. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

(c) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §63.7(e)(1).

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

$C_i$  = concentration of CO or formaldehyde at the control device inlet,

$C_o$  = concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

(2) You must normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO<sub>2</sub>). If pollutant concentrations are to be corrected to 15 percent oxygen and CO<sub>2</sub> concentration is measured in lieu of oxygen concentration measurement, a CO<sub>2</sub> correction factor is needed. Calculate the CO<sub>2</sub> correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific  $F_o$  value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

Where:

$F_o$  = Fuel factor based on the ratio of oxygen volume to the ultimate  $\text{CO}_2$  volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

$F_d$  = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19,  $\text{dsm}^3 / \text{J}$  ( $\text{dscf}/10^6 \text{ Btu}$ ).

$F_c$  = Ratio of the volume of  $\text{CO}_2$  produced to the gross calorific value of the fuel from Method 19,  $\text{dsm}^3 / \text{J}$  ( $\text{dscf}/10^6 \text{ Btu}$ ).

(ii) Calculate the  $\text{CO}_2$  correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{\text{co}_2} = \frac{5.9}{F_o} \quad (\text{Eq. 3})$$

Where:

$X_{\text{co}_2}$  =  $\text{CO}_2$  correction factor, percent.

5.9 = 20.9 percent  $\text{O}_2$  - 15 percent  $\text{O}_2$ , the defined  $\text{O}_2$  correction value, percent.

(iii) Calculate the  $\text{NO}_x$  and  $\text{SO}_2$  gas concentrations adjusted to 15 percent  $\text{O}_2$  using  $\text{CO}_2$  as follows:

$$C_{\text{adj}} = C_d \frac{X_{\text{co}_2}}{\% \text{CO}_2} \quad (\text{Eq. 4})$$

Where:

$\% \text{CO}_2$  = Measured  $\text{CO}_2$  concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally ( e.g., operator adjustment, automatic controller adjustment, etc.) or unintentionally ( e.g., wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

### **§ 63.6625 What are my monitoring, installation, operation, and maintenance requirements?**

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO<sub>2</sub> at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO<sub>2</sub> concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in §63.8.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008]

### **§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?**

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

### **Continuous Compliance Requirements**

#### **§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?**

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously at all times that the stationary RICE is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

#### **§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?**

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b and Tables 2a and 2b of this subpart that apply to you according to methods specified in Table 6 of this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b and Tables 2a and 2b of this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) [Reserved]

(d) Consistent with §§63.6(e) and 63.7(e)(1), deviations from the emission or operating limitations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with §63.6(e)(1). For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations.

Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR §94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate any stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing CI stationary RICE, an existing emergency stationary RICE, an existing limited use emergency stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008]

## Notifications, Reports, and Records

### § 63.6645 What notifications must I submit and when?

(a) If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions or a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions, you must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

[73 FR 3606, Jan. 18, 2008]

### **§ 63.6650 What reports must I submit and when?**

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.

(1) The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) The first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6 (a)(3)(iii)(A) or

40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period, the compliance report must include the information in §63.10(d)(5)(i).

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

- (8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.
- (9) A brief description of the stationary RICE.
- (10) A brief description of the CMS.
- (11) The date of the latest CMS certification or audit.
- (12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

- (1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.
- (2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.
- (3) Any problems or errors suspected with the meters.

### **§ 63.6655 What records must I keep?**

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(3), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous ( *i.e.*, superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

### **§ 63.6660 In what form and how long must I keep my records?**

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form on-site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off-site for the remaining 3 years.

### **Other Requirements and Information**

### **§ 63.6665 What parts of the General Provisions apply to me?**

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate any stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions: An existing 2SLB RICE, an existing 4SLB stationary RICE, an existing CI stationary RICE, an existing stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[73 FR 3606, Jan. 18, 2008]

### **§ 63.6670 Who implements and enforces this subpart?**

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

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

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

### **§ 63.6675 What definitions apply to this subpart?**

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

*Area source* means any stationary source of HAP that is not a major source as defined in part 63.

*Associated equipment* as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

*CAA* means the Clean Air Act (42 U.S.C. 7401 *et seq.*, as amended by Public Law 101-549, 104 Stat. 2399).

*Compression ignition* means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

*Custody transfer* means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

*Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

*Diesel engine* means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

*Diesel fuel* means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2.

*Digester gas* means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO<sub>2</sub>.

*Dual-fuel engine* means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

*Emergency stationary RICE* means any stationary RICE whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines. Emergency stationary RICE with a site-rating of more than 500 brake HP located at a major source of HAP emissions that were installed prior to June 12, 2006, may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance. Emergency stationary RICE with a site-rating of more than 500 brake HP located at a major source of HAP emissions that were installed prior to June 12, 2006, may also operate an additional 50 hours per year in non-emergency situations. Emergency stationary RICE with a site-rating of more than 500 brake HP located at a major source of HAP emissions that were installed on or after June 12, 2006, must comply with requirements specified in 40 CFR 60.4243(d).

*Four-stroke engine* means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

*Gaseous fuel* means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

*Gasoline* means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

*Glycol dehydration unit* means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

*Hazardous air pollutants (HAP)* means any air pollutants listed in or pursuant to section 112(b) of the CAA.

*ISO standard day conditions* means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

*Landfill gas* means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO<sub>2</sub>.

*Lean burn engine* means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

*Limited use stationary RICE* means any stationary RICE that operates less than 100 hours per year.

*Liquefied petroleum gas* means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

*Liquid fuel* means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

*Major Source*, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

*Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

*Natural gas* means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

*Non-selective catalytic reduction (NSCR)* means an add-on catalytic nitrogen oxides (NO<sub>x</sub>) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO<sub>x</sub>, CO, and volatile organic compounds (VOC) into CO<sub>2</sub>, nitrogen, and water.

*Oil and gas production facility* as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded ( *i.e.*, remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

*Oxidation catalyst* means an add-on catalytic control device that controls CO and VOC by oxidation.

*Peaking unit or engine* means any standby engine intended for use during periods of high demand that are not emergencies.

*Percent load* means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

*Potential to emit* means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

*Production field facility* means those oil and gas production facilities located prior to the point of custody transfer.

*Production well* means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

*Propane* means a colorless gas derived from petroleum and natural gas, with the molecular structure C<sub>3</sub>H<sub>8</sub>.

*Responsible official* means responsible official as defined in 40 CFR 70.2.

*Rich burn engine* means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO<sub>x</sub> (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

*Site-rated HP* means the maximum manufacturer's design capacity at engine site conditions.

*Spark ignition* means relating to either: A gasoline-fueled engine; or any other type of engine a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

*Stationary reciprocating internal combustion engine (RICE)* means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

*Stationary RICE test cell/stand* means an engine test cell/stand, as defined in subpart P of this part, that tests stationary RICE.

*Stoichiometric* means the theoretical air-to-fuel ratio required for complete combustion.

*Storage vessel with the potential for flash emissions* means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

*Subpart* means 40 CFR part 63, subpart ZZZZ.

*Surface site* means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

*Two-stroke engine* means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008]

### **Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions**

[As stated in §63.6600, you must comply with the following emission limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions at 100 percent load plus or minus 10 percent]

For each...	You must meet the following emission limitations...
1. 4SRB stationary RICE	a. reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007;
	or
	b. limit the concentration of formaldehyde in the stationary RICE exhaust 350 ppbvd or less at 15 percent O <sub>2</sub> .

[73 FR 3607, Jan. 18, 2008]

**Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions**

[As stated in §§63.6600, 63.6630 and 63.6640, you must comply with the following operating emission limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions]

For each...	You must meet the following operating limitation...
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and
4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub> and using NSCR.	b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.
2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or	Comply with any operating limitations approved by the Administrator.
4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub> and not using NSCR.	

[73 FR 3607, Jan. 18, 2008]

**Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions**

[As stated in §§63.6600 and 63.6601, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent]

For each...	You must meet the following emission limitation...
1. 2SLB stationary RICE	a. reduce CO emissions by 58 percent or more;
	or
	b. limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O <sub>2</sub> . If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O <sub>2</sub> until June 15, 2007.
2. 4SLB stationary RICE	a. reduce CO emissions by 93 percent or more;
	or
	b. limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O <sub>2</sub> .
3. CI stationary RICE	a. reduce CO emissions by 70 percent or more;
	or
	b. limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O <sub>2</sub> .

[73 FR 3608, Jan. 18, 2008]

**Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and 4SLB Burn Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions**

[As stated in §§63.6600, 63.6601, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary]

<b>For each...</b>	<b>You must meet the following operating limitation...</b>
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst	Comply with any operating limitations approved by the Administrator.

[73 FR 3608, Jan. 18, 2008]

**Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests**

[As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements]

<b>For each . . .</b>	<b>Complying with the requirement to . . .</b>	<b>You must . . .</b>
1. 2SLB and 4SLB stationary RICE and CI stationary RICE	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually. <sup>1</sup>
2. 4SRB stationary RICE with a brake horsepower $\geq 5,000$	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually. <sup>1</sup>
3. Stationary RICE (all stationary RICE subcategories and all brake horsepower ratings)	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually. <sup>1</sup>

<sup>1</sup>After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

**Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests**

[As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE]

<b>For each . . .</b>	<b>Complying with the requirement to . . .</b>	<b>You must . . .</b>	<b>Using . . .</b>	<b>According to the following requirements . . .</b>
1. 2SLB, 4SLB, and CI stationary RICE	a. Reduce CO emissions	i. Measure the O <sub>2</sub> at the inlet and outlet of the control device; and	(1) Portable CO and O <sub>2</sub> analyzer	(a) Using ASTM D6522–00 (2005) <sup>a</sup> (incorporated by reference, see §63.14). Measurements to determine O <sub>2</sub> must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) Portable CO and O <sub>2</sub> analyzer	(a) Using ASTM D6522–00 (2005) <sup>a</sup> (incorporated by reference, see §63.14) or Method 10 of 40 CFR, appendix A. The CO concentration must be at 15 percent O <sub>2</sub> , dry basis.
2. 4SRB stationary RICE	a. Reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O <sub>2</sub> at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00 (2005).	(a) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for formaldehyde concentration.
		iii. Measure	(1) Method 4 of 40	(a) Measurements to

		moisture content at the inlet and outlet of the control device; and	CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03	determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03 <sup>b</sup> , provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. Limit the concentration of formaldehyde in the stationary RICE exhaust	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O <sub>2</sub> concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522-00 (2005)	(a) Measurements to determine O <sub>2</sub> concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the exhaust of	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or	(a) Formaldehyde concentration must be at 15 percent O <sub>2</sub> , dry basis.

		the stationary RICE	ASTM D6348–03 <sup>b</sup> , provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	Results of this test consist of the average of the three 1-hour or longer runs.
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<sup>a</sup>You may also use Methods 3A and 10 as options to ASTM–D6522–00 (2005). You may obtain a copy of ASTM–D6522–00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

<sup>b</sup>You may obtain a copy of ASTM–D6348–03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[73 FR 3609, Jan. 18, 2008]

**Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations and Operating Limitations**

[As stated in §§63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following]

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. the average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and
		ii. You have installed a CPMS to continuously

		monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
3. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O <sub>2</sub> or CO <sub>2</sub> at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and
		ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
4. 4SRB stationary RICE	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
5. 4SRB stationary RICE	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.

6. Stationary RICE	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
7. Stationary RICE	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.

**Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations and Operating Limitations**

[As stated in §63.6640, you must continuously comply with the emissions and operating limitations as required by the following]

<b>For each . . .</b>	<b>Complying with the requirement to . . .</b>	<b>You must demonstrate continuous compliance by . . .</b>
1. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved <sup>1</sup> ; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and

		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved <sup>1</sup> ; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. 2SLB and 4SLB stationary RICE and CI stationary RICE	a. Reduce CO emissions and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction of CO emissions according to §63.6620; and
		ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period; and
		iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. 4SRB stationary RICE	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and

		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. 4SRB stationary RICE	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		ii. reducing these data to 4-hour rolling averages;
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. 4SRB stationary RICE with a brake horsepower $\geq 5,000$	Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved <sup>1</sup> .
7. Stationary RICE	Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit <sup>1</sup> ; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. Stationary RICE	Limit the concentration of	i. Conducting semiannual performance tests

	formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit <sup>1</sup> ; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

<sup>1</sup>After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

**Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports**

[As stated in §63.6650, you must comply with the following requirements for reports]

<b>You must submit a(n)</b>	<b>The report must contain . . .</b>	<b>You must submit the report . . .</b>
1. Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or	i. Semiannually according to the requirements in §63.6650(b).
	b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS,	i. Semiannually according to the requirements in §63.6650(b).

	including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or	
	c. If you had a startup, shutdown or malfunction during the reporting period, the information in §63.10(d)(5)(i)	i. Semiannually according to the requirements in §63.6650(b).
2. An immediate startup, shutdown, and malfunction report if actions addressing the startup, shutdown, or malfunction were inconsistent with your startup, shutdown, or malfunction plan during the reporting period	a. Actions taken for the event; and	i. By fax or telephone within 2 working days after starting actions inconsistent with the plan.
	b. The information in §63.10(d)(5)(ii).	i. By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authorities. (§63.10(d)(5)(ii))
3. Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and	i. Annually, according to the requirements in §63.6650.
	b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 3.a.i.
	c. Any problems or errors suspected with the meters	i. See item 3.a.i.

**Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ**

[As stated in §63.6665, you must comply with the following applicable general provisions]

<b>General provisions citation</b>	<b>Subject of citation</b>	<b>Applies to subpart</b>	<b>Explanation</b>
§63.1	General applicability of the General Provisions	Yes	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes	
§63.4	Prohibited activities and circumvention	Yes	
§63.5	Construction and reconstruction	Yes	
§63.6(a)	Applicability	Yes	
§63.6(b)(1)–(4)	Compliance dates for new and reconstructed sources	Yes	
§63.6(b)(5)	Notification	Yes	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes	
§63.6(c)(1)–(2)	Compliance dates for existing sources	Yes	
§63.6(c)(3)–(4)	[Reserved]		
§36.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes	
§63.6(d)	[Reserved]		
§63.6(e)(1)	Operation and maintenance	Yes	
§63.6(e)(2)	[Reserved]		
§63.6(e)(3)	Startup, shutdown, and malfunction plan	Yes	
§63.6(f)(1)	Applicability of standards	Yes	

	except during startup shutdown malfunction (SSM)		
§63.6(f)(2)	Methods for determining compliance	Yes	
§63.6(f)(3)	Finding of compliance	Yes	
§63.6(g)(1)–(3)	Use of alternate standard	Yes	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes	
§63.6(j)	Presidential compliance exemption	Yes	
§63.7(a)(1)–(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610 and 63.6611.
§63.7(a)(3)	CAA section 114 authority	Yes	
§63.7(b)(1)	Notification of performance test	Yes	
§63.7(b)(2)	Notification of rescheduling	Yes	
§63.7(c)	Quality assurance/test plan	Yes	
§63.7(d)	Testing facilities	Yes	
§63.7(e)(1)	Conditions for conducting performance tests	Yes	
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes	
§63.7(f)	Alternative test method provisions	Yes	
§63.7(g)	Performance test data analysis,	Yes	

	recordkeeping, and reporting		
§63.7(h)	Waiver of tests	Yes	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No	
§63.8(b)(1)	Monitoring	Yes	
§63.8(b)(2)–(3)	Multiple effluents and multiple monitoring systems	Yes	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes	
§63.8(c)(1)(i)	Routine and predictable SSM	Yes	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	Yes	
§63.8(c)(2)–(3)	Monitoring system installation	Yes	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)–(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
§63.8(f)(1)–(5)	Alternative monitoring method	Yes	
§63.8(f)(6)	Alternative to relative accuracy test	Yes	

§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes	
§63.9(b)(1)–(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
§63.9(c)	Request for compliance extension	Yes	
§63.9(d)	Notification of special compliance requirements for new sources	Yes	
§63.9(e)	Notification of performance test	Yes	
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
§63.9(h)(1)–(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
§63.9(i)	Adjustment of submittal deadlines	Yes	
§63.9(j)	Change in previous information	Yes	
§63.10(a)	Administrative provisions for record keeping/reporting	Yes	

§63.10(b)(1)	Record retention	Yes	
§63.10(b)(2)(i)–(v)	Records related to SSM	Yes	
§63.10(b)(2)(vi)–(xi)	Records	Yes	
§63.10(b)(2)(xii)	Record when under waiver	Yes	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes	
§63.10(b)(3)	Records of applicability determination	Yes	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)–(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes	
§63.10(d)(2)	Report of performance test results	Yes	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	Yes	
§63.10(e)(1) and (2)(i)	Additional CMS reports	Yes	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes	Except that §63.10(e)(3)(i)(C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes	
§63.11	Flares	No	

§63.12	State authority and delegations	Yes	
§63.13	Addresses	Yes	
§63.14	Incorporation by reference	Yes	
§63.15	Availability of information	Yes	

[73 FR 3610, Jan. 18, 2008]

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

Addendum to the Technical Support Document (ATSD) for a  
New Source Construction and Federally Enforceable State Operating  
Permit (FESOP)

**Source Background and Description**

<b>Source Name:</b>	<b>Rieth-Riley Construction Co., Inc.</b>
<b>Source Location:</b>	<b>Portable</b>
<b>Initial Location:</b>	<b>1751 West Minnesota Street, Indianapolis, IN 46221</b>
<b>County:</b>	<b>Marion</b>
<b>SIC Code:</b>	<b>2951</b>
<b>Operation Permit No.:</b>	<b>F 097-27199-05319</b>
<b>Permit Reviewer:</b>	<b>Brian Williams</b>

On October 31, 2009, the Office of Air Quality (OAQ) had a notice published in the Indianapolis Star, Indianapolis, Indiana, stating that Rieth-Riley Construction Co., Inc. had applied for a New Source Construction and FESOP to construct and operate a new portable drum mix hot asphalt plant. The notice also stated that the OAQ proposed to issue a FESOP for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

**Comments and Responses**

On November 11, 2009, Rieth-Riley Construction Co., Inc. submitted comments to IDEM, OAQ on the draft New Source Construction and FESOP.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

**Comment 1:**

According to Section C.19 of the referenced permit, this source is not approved for operation in Lake and Porter counties because Lake and Porter counties are severe nonattainment areas for ozone. This source would like the option to relocate to Lake and Porter counties. Therefore, the source has proposed to limit VOC emissions to less than twenty-five (25) tons per year, with compliance demonstrated through record keeping.

**Response to Comment 1:**

IDEM agrees with the recommended changes, since the source has agreed to limit VOC emissions to less than twenty-five (25) tons per year. The permit has been revised as follows:

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

---

- ...
- (a) Pursuant to 326 IAC 2-8:
- (1) **The potential to emit volatile organic compounds (VOCs) from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period;**
  - (42) The potential to emit any regulated pollutant, except particulate matter (PM) **and volatile organic compounds (VOCs)**, from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period;
  - (23) 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
  - (34) 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.

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

---

- ...
- (c) **Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in Lake County.**
- (ed) 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, when the source is located in any County.

...  
C.8 Fugitive Dust Emissions [326 IAC 6.8-10-3]

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**Pursuant to 326 IAC 6.8-10-3 (formerly 326 IAC 6-1-11.1) (Lake County Fugitive Particulate Matter Control Requirements), when located in Lake County, the particulate matter emissions from source wide activities shall meet the following requirements:**

- (a) **The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).**
- (b) **The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).**
- (c) **The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).**
- (d) **The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.**
- (e) **The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.**

- (f) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.
- (g) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).
- (h) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.
- (i) The  $PM_{10}$  emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
- (j) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).
- (k) The  $PM_{10}$  emissions from each material processing stack shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
- (l) Fugitive particulate matter from the material processing facilities shall not exceed ten percent (10%) opacity.
- (m) Slag and kish handling activities at integrated iron and steel plants shall comply with the following particulate emissions limits:
  - (1) The opacity of fugitive particulate emissions from transfer from pots and trucks into pits shall not exceed twenty percent (20%) on a six (6) minute average.
  - (2) The opacity of fugitive particulate emissions from transfer from pits into front end loaders and from transfer from front end loaders into trucks shall comply with the fugitive particulate emission limits in 326 IAC 6.8-10-3(9).
- (n) Any facility or operation not specified in 326 IAC 6.8-10-3 shall meet a twenty percent (20%), three (3) minute average opacity standard.

The Permittee shall achieve these limits by controlling fugitive particulate matter emissions according to the attached Fugitive Dust Control Plan.

...

**C.15 Continuous Compliance Plan [326 IAC 6.8-8-1] [326 IAC 6.8-8-8]**

---

- (a) Pursuant to 326 IAC 326 IAC 6.8-8-1, when located in Lake County, the Permittee shall submit to IDEM and maintain at source a copy of the Continuous Compliance Plan (CCP). The Permittee shall perform the inspections, monitoring and record keeping in accordance with the information in 326 IAC 6.8-8-5 through 326 IAC 6.8-8-7 or applicable procedures in the CCP.
- (b) Pursuant to 326 IAC 6.8-8-8, the Permittee shall update the CCP, as needed, retain a copy of any changes and updates to the CCP at the source and make the updated CCP available for inspection by the department. The Permittee shall submit the updated CCP, if required to IDEM, OAQ within thirty (30) days of the update.
- (c) Pursuant to 326 IAC 6.8-8, failure to submit a CCP, maintain all information required by the CCP at the source, or submit update to a CCP is a violation of 326 IAC 6.8-8.

...

**C.20 Emission Statement [326 IAC 2-6]**

---

- (a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit an emission statement by July 1 following a calendar year when the source is located in Lake, LaPorte, or Porter Counties and emits oxides of nitrogen into the ambient air equal to or greater than twenty-five (25) tons. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

The statement must be submitted to:

Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-50 IGCN 1003  
Indianapolis, Indiana 46204-2251

The emission statement does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

- (b) The emission statement 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.4923 Relocation of Portable Sources [326 IAC 2-14-4]**

---

- (a) This permit is approved for operation in all areas of Indiana ~~except in Lake County, Porter County, and severe nonattainment areas for ozone.~~ This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2, and Emission Offset requirements in 326 IAC 2-3.

...

**D.1.1 FESOP Limits [326 IAC 2-8-4] [326 IAC 2-1.1-5 [326 IAC 2-2] [326 IAC 8-1-6]**

---

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

...

- ~~(e) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.~~

Compliance with these limits, combined with the limited potential to emit PM10, PM2.5, **and** CO<sub>2</sub> ~~and VOC~~ from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, **and** CO<sub>2</sub> ~~and VOC~~, to less than 100 tons per 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.

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

...

**D.1.4 Particulate [326 IAC 6.8-1-2]**

---

Pursuant to 326 IAC 6.8-1-2 (Particulate Matter Limitations for Lake County), particulate matter (PM) emissions from the dryer/mixer shall not exceed 0.03 grain per dry standard cubic foot of exhaust air when the source is located in Lake County.

...

D.1.45 SO<sub>2</sub>, NO<sub>x</sub>, **VOC**, and HCl Limits [326 IAC 2-8-4] [326 IAC 2-2] **[326 IAC 2-3]** [326 IAC 2-4.1]  
**[326 IAC 8-1-6]**

---

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

...

(d) **VOC emissions from the dryer/mixer, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold mix asphalt production shall not exceed 24.9 tons per twelve (12) consecutive month period with compliance determined at the end of each month.**

...

(df) HCl emissions from the dryer/mixer burner, generators, and hot oil heater shall not exceed 9.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the limited potential to emit SO<sub>2</sub>, NO<sub>x</sub>, **VOC**, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO<sub>2</sub> and NO<sub>x</sub> to less than 100 tons per 12 consecutive month period, each, **VOC to less than 25 tons per 12 consecutive month period**, HCl to less than 10 tons per 12 consecutive month period, and any combination of HAPs to less than 25 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), **326 IAC 2-3 (Emission Offset)**, and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)), **and 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)** not applicable.

...

~~D.1.6 Volatile Organic Compounds (VOC) [326 IAC 2-8-4] [326 IAC 2-2]~~

---

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

~~(a) VOC emissions from the sum of the binders shall not exceed 48.22 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

~~(b) Liquid binder used in the production of cold mix asphalt shall be defined as follows:~~

~~(1) Cut back asphalt rapid cure, containing a maximum of 25.3% by weight of VOC solvent in the liquid binder and 95% by weight of VOC solvent evaporating.~~

~~(2) Cut back asphalt medium cure, containing a maximum of 28.6% by weight of VOC solvent in the liquid binder and 70% by weight of VOC solvent evaporating.~~

~~(3) Cut back asphalt slow cure, containing a maximum of 20% by weight of VOC solvent in the liquid binder and 25% by weight of VOC solvent evaporating.~~

~~(4) Emulsified asphalt with solvent, containing a maximum of 15% by weight of VOC solvent in the liquid binder and 46.4% by weight of VOC solvent evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be 7% or less of the total emulsion by volume~~

~~(5) Other asphalt with solvent binder, containing a maximum of 25.9% by weight of VOC solvent in the liquid binder and 2.5% by weight of VOC solvent evaporating.~~

~~(c) The liquid binder used in the production of cold mix asphalt shall be limited as follows:~~

~~(1) The amount of VOC solvent used in rapid cure cut back asphalt shall not exceed 50.8 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

- (2) ~~The amount of VOC solvent used in medium cure cut back asphalt shall not exceed 68.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- (3) ~~The amount of VOC solvent used in slow cure cut back asphalt shall not exceed 192.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- (4) ~~The amount of VOC solvent used in emulsified asphalt shall not exceed 103.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- (5) ~~The amount of VOC solvent used in all other asphalt shall not exceed 1928.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- (6) ~~The VOC solvent allotments in (1) through (5) above shall be adjusted when more than one type of binder is used per twelve (12) consecutive month period, with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment factor listed in the table that follows.~~

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

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

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

...  
**D.1.10 Particulate Control**

- (a) In order to comply with Conditions D.1.1, D.1.2, and D.1.3, **and D.1.4** 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.

...  
**D.1.11 Asphalt, Fuel, and Slag Limitations**

In order to comply with Conditions D.1.4(a)(1), D.1.4(b), D.1.4(c), and D.1.4(d), the Permittee shall limit **asphalt production**, fuel usage in the dryer/mixer burner, generators, and hot oil heater and slag usage in the dryer/mixer burner according to the following formulas:

- ...  
**(b) Total VOC emissions shall be determined using the following equation:**

$$V = \frac{[A(0.032) + D_1(0.012) + D_2(0.05) + G(5.5) + F(0.2) + A(0.004)(0.94) + A(0.012) + A(0.001)(0.94)] + V_{cm}}{2000}$$

**Where:**

- V** = tons of VOC emissions for previous 12 month consecutive period;  
**A** = tons of asphalt produced in previous 12 months;  
**D<sub>1</sub>** = gallons of diesel fuel used in generator EU-4 in previous 12 months;  
**D<sub>2</sub>** = gallons of diesel fuel used in generator EU-5 in previous 12 months;  
**G** = million cubic feet of natural gas used in hot oil heater EU-2 in previous 12 months;  
**F** = gallons of No. 2 fuel oil used in hot oil heater EU-3 in previous 12 months;  
**V<sub>cm</sub>** = tons of VOC emissions from cold mix asphalt production in previous 12 month consecutive period;

**Emission Factors:**

- Dryer/Mixer = 0.0032 pounds per ton of asphalt;**  
**Diesel Fuel (generator EU-4) = 0.012 pounds per gallon of diesel fuel;**  
**Diesel Fuel (generator EU-5) = 0.05 pounds per gallon of diesel fuel;**  
**Natural Gas (hot oil heater EU-2) = 5.5 pounds per million cubic feet of natural gas;**  
**No. 2 Fuel Oil (hot oil heater EU-3) = 0.2 pounds per gallon of No. 2 fuel oil;**  
**Asphalt Load-Out = 0.004 pounds per ton of asphalt, 94 percent VOC;**  
**Silo Filling = 0.012 pounds per ton of asphalt; and**  
**On-site Yard = 0.001 pounds per ton of asphalt, 94 percent VOC.**

...  
**D.1.134 Hydrogen Chloride (HCl) Emissions and Chlorine Content**

In order to comply with Condition D.1.45(a)(7), the Permittee shall demonstrate that the chlorine content of the waste oil combusted in the dryer/mixer does not exceed 0.4 percent by weight, by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.

...  
**D.1.189 Reporting Requirements**

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

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...  
Facility: ~~Cold-mix asphalt production~~ **Dryer/mixer, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold-mix asphalt production**

...  
Limit: ~~VOC emissions from the sum of the binders shall not exceed 48.22 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the following equation:~~ **VOC emissions from the dryer/mixer, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold mix asphalt production shall not exceed 24.9 tons per twelve (12) consecutive month period with compliance determined at the end of each month. VOC emissions shall be determined using the following equations:**

$$\text{VOC Emitted} = \frac{\text{VOC solvent used for each binder (tons/yr)}}{2000}$$

Adjustment factor

...

**Comment 2:**

Sections A.1, D.1, and E.1 reference the use of slag, but do not specify the type of slag. Please revise all existing references of slag to indicate that this source uses blast furnace slag. The source would also like the ability to use steel slag.

**Response to Comment 2:**

IDEM agrees the permit should specify the type of slag. In addition, IDEM agrees that the source can use steel slag. The permit has been revised as follows:

...

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

---

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

- (a) One (1) portable aggregate drum dryer/mixer, identified as EU-1, approved for construction in 200910, with a maximum capacity of 400 tons of asphalt per hour, processing **blast furnace and steel** slag in the aggregate mix, equipped with one (1) dryer/mixer burner, having a maximum heat input capacity of 100 MMBtu per hour, firing waste oil as primary fuel, using No. 2 fuel oil, No. 4 fuel oil, natural gas, propane gas, and butane gas as backup fuels, equipped with a baghouse for particulate control, and exhausting through Stack SV1.

...

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

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

- (a) One (1) portable aggregate drum dryer/mixer, identified as EU-1, approved for construction in 200910, with a maximum capacity of 400 tons of asphalt per hour, processing **blast furnace and steel** slag in the aggregate mix, equipped with one (1) dryer/mixer burner, having a maximum heat input capacity of 100 MMBtu per hour, firing waste oil as primary fuel, using No. 2 fuel oil, No. 4 fuel oil, natural gas, propane gas, and butane gas as backup fuels, equipped with a baghouse for particulate control, and exhausting through Stack SV1.

...

D.1.45 SO<sub>2</sub>, NO<sub>x</sub>, **VOC**, and HCl Limits [326 IAC 2-8-4] [326 IAC 2-2] **[326 IAC 2-3]** [326 IAC 2-4.1] **[326 IAC 8-1-6]**

---

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

- (a) Sulfur Content and Waste Oil Specifications
  - (1) The 30 day calendar month average sulfur content of the **blast furnace** slag shall not exceed 1.5 percent by weight, with compliance determined at the end of each month.
  - (2) SO<sub>2</sub> emissions from the **blast furnace** slag used in the dryer/mixer shall not exceed 0.74 pounds of SO<sub>2</sub> per ton of **blast furnace** slag processed.
  - (3) **The sulfur content of the steel slag shall not exceed 0.66 percent by weight.**
  - (4) **SO<sub>2</sub> emissions from the steel slag used in the dryer/mixer shall not exceed 0.0014 pounds of SO<sub>2</sub> per ton of steel slag processed.**

...

- (b) SO<sub>2</sub> emissions from the dryer/mixer burner, generators, hot oil heater, and **blast furnace and steel** slag processing shall not exceed 99.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

...  
**D.1.11 Sulfur Dioxide Emissions and Sulfur Content**

---

- (a) Pursuant to 326 IAC 2-8-4, compliance with Condition D.1.45(a)(1) shall be determined utilizing one of the following options:
- (1) Providing vendor analysis of **blast furnace** slag delivered, if accompanied by a vendor certification; or
  - (2) Analyzing a sample of the **blast furnace** slag delivery to determine the sulfur content of the **blast furnace** slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

- ...  
**(b) Pursuant to 326 IAC 2-8-4, compliance with Condition D.1.5(a)(3) shall be determined utilizing one of the following options:**
- (1) Providing vendor analysis of steel slag delivered, if accompanied by a vendor certification; or**
  - (2) Analyzing a sample of the steel slag delivery to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.**

**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.**

- (bc) Pursuant to 326 IAC 3-7-4, compliance with Conditions D.1.56(a) and D.1.56(b) shall be demonstrated utilizing one of the following options:
- (ed) 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 in (bc) or (ed) above shall not be refuted by evidence of compliance pursuant to the other method.

**D.1.12 Asphalt, Fuel, and Slag Limitations**

---

In order to comply with Conditions D.1.4(a)(1), D.1.4(b), D.1.4(c), and D.1.4(d), the Permittee shall limit **asphalt production**, fuel usage in the dryer/mixer burner, generators, and hot oil heater and slag usage in the dryer/mixer burner according to the following formulas:

- ...  
(ac) Waste oil usage with respect to the actual sulfur content shall be determined using the following equation:

- ...  
(bd) When the 30 day calendar month average sulfur content is less than or equal to 1.11 percent by weight, the **blast furnace** slag usage shall be determined using the following equation:

...  
Where:

L = **blast furnace** slag usage in previous 12 consecutive months with an average sulfur

content less than or equal to 1.11 percent by weight;

...

J = actual tons of **blast furnace** slag used per month where the 30 day calendar month average sulfur content is less than or equal to 1.11 percent by weight.

- (ee) When the 30 day calendar month average sulfur content is greater than 1.11 percent by weight, the **blast furnace** slag usage shall be determined using the following equation:

...

Where:

X = **blast furnace** slag usage in previous 12 consecutive months with an average sulfur content greater than 1.11 percent by weight;

...

K = actual tons of **blast furnace** slag used per month where the 30 day calendar month average sulfur content is greater than 1.11 percent by weight.

- (df) Sulfur dioxide (SO<sub>2</sub>) emissions shall be determined using the following equation:

$$S = \frac{[D(0.0792) + I(0.04) + H(0.071) + G(0.6) + O(0.0785) + F(0.075) + P(0.00002) + B(0.00002) + U(0.147) + A(0.0014) + L(0.5413) + X(0.74)]}{2000}$$

Where:

...

P = gallons of propane used in dryer/mixer in ~~last~~ previous 12 months;

B = gallons of butane used in dryer/mixer in ~~last~~ previous 12 months;

U = gallons of waste oil as defined by Condition D.1.12(ab);

**A = tons of steel slag used in dryer/mixer in previous 12 months;**

L = tons of **blast furnace** slag as defined by Condition D.1.12(bd); and

X = tons of **blast furnace** slag as defined by Condition D.1.12(ee).

Emission Factors:

...

Waste Oil (dryer/mixer) = 0.147 pounds per gallon of waste oil; ~~and~~

**Steel Slag = 0.0014 pounds per ton of steel slag processed; and**

**Blast Furnace Slag = 0.5413 pounds per ton of blast furnace slag processed, with a 30 day calendar month average sulfur content less than or equal to 1.11 percent by weight or 0.74 pounds per ton of blast furnace slag processed, with a 30 day calendar month average sulfur content greater than 1.11 percent by weight.**

- (eg) Nitrogen oxide (NO<sub>x</sub>) emissions shall be determined using the following equation:

...

- (fh) Waste oil usage with respect to the actual chlorine content shall be determined using the following equation:

...

- (gi) Hydrogen Chloride (HCl) emissions shall be determined using the following equation:

...

Where:

HCl = tons of hydrogen chloride emissions for previous 12 consecutive month period; and

U = gallons of waste oil as defined in Condition D.1.12(fh).

...

#### D.1.178 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.1(a), ~~and~~ D.1.2(a), **and D.1.5(d)** the Permittee shall keep ~~daily~~ **monthly** records of the amount of asphalt processed through the dryer/mixer.

- (b) To document compliance with Conditions D.1.45 and D.1.56, 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 Conditions D.1.45 and D.1.56.

...

- (2) Actual **blast furnace and steel** slag usage, sulfur content and equivalent sulfur dioxide emission rates for all **blast furnace and steel** slag used at the source since the last compliance determination period;
- (3) A certification, signed by the owner or operator, that the records of the **blast furnace and steel** slag supplier certifications represent all of the **blast furnace and steel** slag used during the period; and
- (4) If the **blast furnace and steel** slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
  - (i) **Blast furnace and steel** slag supplier certifications;
  - (ii) The name of the **blast furnace and steel** slag supplier; and
  - (iii) A statement from the **blast furnace and steel** slag supplier that certifies the sulfur content of the **blast furnace and steel** slag.

...

#### SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

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

- (a) One (1) portable aggregate drum dryer/mixer, identified as EU-1, approved for construction in 2009~~10~~, with a maximum capacity of 400 tons of asphalt per hour, processing **blast furnace and steel** slag in the aggregate mix, equipped with one (1) dryer/mixer burner, having a maximum heat input capacity of 100 MMBtu per hour, firing waste oil as primary fuel, using No. 2 fuel oil, No. 4 fuel oil, natural gas, propane gas, and butane gas as backup fuels, equipped with a baghouse for particulate control, and exhausting through Stack SV1.

...

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...

Facility: Dryer/mixer burner, generators, hot oil heater, and **blast furnace and steel** slag processing

...

Limit: SO<sub>2</sub> emissions from the dryer/mixer burner, generators, hot oil heater, and **blast furnace and steel** slag processing shall not exceed 99.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

...

#### Comment 3:

When using cutback asphalt that has been tested using ASTM Method D-402, the source is requesting the ability to use an alternative method to determine VOC emissions from the production of cold mix asphalt. The source is proposing to use an equation to calculate VOC emissions when distillation data is available for the cutback asphalt. In addition, the source is proposing to keep records regarding the mix temperature, tons of cold mix asphalt produced, percent binder in the mix, percent solvent in the binder, and percent of VOC that evaporates when heated to 500°F. When distillation data is not available, the source will use the methods established by IDEM to determine VOC emissions from the production of cold mix asphalt.

#### Response to Comment 3:

IDEM has reviewed the information provided by the source and agrees that the source can use an alternative method to determine VOC emissions from cold mix asphalt production. The permit has been revised as follows:

...

D.1.45 SO<sub>2</sub>, NO<sub>x</sub>, **VOC**, and HCl Limits [326 IAC 2-8-4] [326 IAC 2-2] **[326 IAC 2-3]** [326 IAC 2-4.1] **[326 IAC 8-1-6]**

---

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

(e) **Liquid binder used in the production of cold mix asphalt shall be defined as follows:**

- (1) **Cut back asphalt rapid cure, containing a maximum of 25.3% by weight of VOC solvent in the liquid binder and 95% by weight of VOC solvent evaporating.**
- (2) **Cut back asphalt medium cure, containing a maximum of 28.6% by weight of VOC solvent in the liquid binder and 70% by weight of VOC solvent evaporating.**
- (3) **Cut back asphalt slow cure, containing a maximum of 20% by weight of VOC solvent in the liquid binder and 25% by weight of VOC solvent evaporating.**
- (4) **Emulsified asphalt with solvent, containing a maximum of 15% by weight of VOC solvent in the liquid binder and 46.4% by weight of VOC solvent evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be 7% or less of the total emulsion by volume**
- (5) **Other asphalt with solvent binder, containing a maximum of 25.9% by weight of VOC solvent in the liquid binder and 2.5% by weight of VOC solvent evaporating. This definition applies to any other asphalt with solvent binder that does not have distillation data available as determined by ASTM Method D-402, Distillation of Cutback Asphalt Products.**
- (6) **Rieth-Riley other asphalt with solvent binder, cutback asphalt that has distillation data available as determined by ASTM Method D-402, Distillation of Cutback Asphalt Products.**

...

D.1.12 **Asphalt, Fuel, and Slag Limitations**

---

In order to comply with Conditions D.1.4(a)(1), D.1.4(b), D.1.4(c), and D.1.4(d), the Permittee shall limit **asphalt production**, fuel usage in the dryer/mixer burner, generators, and hot oil heater and slag usage in the dryer/mixer burner according to the following formulas:

(a) **VOC emissions from cold mix asphalt production shall be determined using the following equation:**

$$V_{cm} = \left( \frac{S}{AF} \right) + \sum_{i=1}^n [C * (B/100) * (D/100) * (V/100)]$$

**Where:**

**V<sub>cm</sub> = tons of VOC emissions from cold mix asphalt production in previous 12**

**month consecutive period;**  
**S = tons of VOC solvent used for each binder as defined in D.1.5(e)(1) through (5) in previous 12 months; and**  
**AF = Adjustment factor for each type of liquid binder as defined in D.1.5(e)(1) through (5);**  
**n = total number of binders used in the production of cold mix asphalt as defined in D.1.5(e)(6);**  
**i = each binder used in the production of cold mix asphalt as defined in D.1.5(e)(6);**  
**C = tons of cold mix asphalt produced using each binder as defined in D.1.5(e)(6) in previous 12 months;**  
**B = Percent of binder used in cold mix asphalt for each binder as defined in D.1.5(e)(6);**  
**D = Percent solvent in each binder as defined in D.1.5(e)(6); and**  
**V = Percent of VOC from the solvent that evaporates when heated to 500°F for each binder as defined in D.1.5(e)(6). This shall be determined by using distillation data provided by the vendor or based on a distillation test performed by the source.**

**Adjustment Factors:**

**Cutback Asphalt Rapid Cure Adjustment Factor = 1.053;**  
**Cutback Asphalt Medium Cure Adjustment Factor = 1.429;**  
**Cutback Asphalt Slow Cure Adjustment Factor = 4.0;**  
**Emulsified Asphalt with Liquid Binder Adjustment Factor = 2.155; and**  
**Other Asphalt with Liquid Binder Adjustment Factor = 40.0**

...

**D.1.13 Cold Mix Asphalt Content**

---

In order to comply with Condition D.1.5(e)(6), the Permittee shall demonstrate the percent of VOC from the solvent that evaporates in the binder when heated to 500°F for each binder used in the production of cold mix asphalt as defined in D.1.5(e)(6) as follows:

- (a) Providing distillation data as determined by ASTM Method D-402, Distillation of Cutback Asphalt Products for the binder, if accompanied by a vendor certification; or
- (b) Analyzing a sample of the binder to determine the percent of VOC from the solvent that evaporates in the binder when heated to 500°F, utilizing ASTM Method D-402, Distillation of Cutback Asphalt Products or other procedures approved by IDEM, OAQ.

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

**D.1.178 Record Keeping Requirements**

---

...

- (c) To document compliance with Condition D.1.65(e)(1) through (5), the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.1.65(e)(1) through (5).

...

- (d) To document compliance with Condition D.1.5(e)(6), the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.1.5(e)(6).

- (1) Calendar dates covered in the compliance determination period;**
- (2) Mix temperature of cold mix asphalt produced since the last compliance determination period;**
- (3) Amount of cold mix asphalt produced since the last compliance determination period;**
- (4) Percent of cutback asphalt binder used in the production of cold mix asphalt since the last compliance determination period;**
- (5) Percent of solvent in the cutback asphalt binder used in the production of cold mix asphalt since the last compliance determination period; and**
- (6) Evaporation rate of the solvent in the cutback asphalt binder used in production of cold mix asphalt since the last compliance determination period and the amount of VOC emitted since the last compliance determination period.**

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

- (de) To document compliance with Condition D.1.145, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack (S-1) 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).
- (ef) To document compliance with Condition D.1.156, 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).
- (fg) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

...

Due to these changes, conditions in Section C and Section D.1 have been renumbered accordingly and the FESOP Quarterly Reporting forms have been updated as necessary.

### Additional Changes

IDEM, OAQ has decided to make additional revisions to the permit as described below, with deleted language as ~~strikeouts~~ and new language **bolded**.

- (a) Sections A.2 and D.2 have been revised to correct typographical errors. The maximum storage capacity of the waste oil storage tank was incorrectly listed as 40,000 gallons. The correct capacity is 20,000 gallons. As a result, the waste oil storage tank has a capacity less than thirty-nine thousand (39,000) gallons. Pursuant to 326 IAC 8-9-1(b), the storage tank is subject to reporting and recordkeeping provisions of section 6(a) and 6(b) of this rule and is exempt from all other provisions of this rule when the source is located in Clark or Floyd Counties. In addition, the liquid asphalt cement storage tank and No. 2 fuel oil storage tank were incorrectly identified. Therefore, Sections A.2(e) and D.2 and Condition D.2.1 have been revised as follows:

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

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

- ...  
(e) One (1) waste oil storage tank, identified as EU-5, approved for construction in 2009, with a maximum storage capacity of **4420,000** gallons.

...  
**SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS**

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

- (fd) One (1) liquid asphalt cement storage tank, identified as EU-~~54~~, approved for construction in 2009**10**, with a maximum storage capacity of 31,000 gallons.
- (e) **One (1) waste oil storage tank, identified as EU-5, approved for construction in 2010, with a maximum storage capacity of 20,000 gallons.**
- (hf) One (1) No. 2 fuel oil storage tank, identified as EU-~~76~~, approved for construction in 2009**10**, with a maximum storage capacity of 15,000 gallons.

...  
**D.2.1 Volatile Organic Liquid Storage Vessels [326 IAC 8-9]**

Pursuant to 326 IAC 8-9-6 (Volatile Organic Liquid Storage Vessels), the Permittee shall record and submit to IDEM, OAQ a report containing the following information for **EU-4**, EU-5, and **EU-76** when the source is located in Clark or Floyd Counties:

- ...  
(b) All emission unit descriptions found in Sections A.2, D.1, D.2, E.1 and E.2 have been revised to reflect that these units are approved for construction in 2010 since the permit will be issued in 2010.
- (c) Condition A.4 (FESOP Applicability) was inadvertently omitted from the draft permit. Therefore, the following condition has been added to the permit:

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

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

...  
(d) Condition B.4 (Permit Term) has been revised to correct a typographical error. The correct permit term for this permit is five (5) years.

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

(a) This permit, F097-27199-05319, is issued for a fixed term of ~~ten~~ **five (405)** 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.

...  
(e) Condition C.16 (Emergency Reduction Plans) has been added to the permit because this source has the potential to emit greater than 100 tons of PM per year.

**C.16 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]**

...  
(f) Condition D.1.18 (original Condition D.1.17) has been revised to reflect that the source must keep monthly asphalt production records.

**D.1.178 Record Keeping Requirements**

(a) To document compliance with Conditions D.1.1(a), D.1.2(a), and D.1.5(d) the Permittee shall keep ~~daily~~ **monthly** records of the amount of asphalt processed through the dryer/mixer.

...  
**IDEM Contact**

(a) Questions regarding this proposed FESOP can be directed to Brian Williams 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) (234-5375) or toll free at 1-800-451-6027 extension (4-5375).

(b) A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.idem.in.gov](http://www.idem.in.gov)

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

**Asphalt Plant Limitations**

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	1,000,000	ton/yr
Blast Furnace Slag Content Limitation =	1.50	% sulfur
Steel Slag Content Limitation =	0.66	% sulfur
No. 2 Fuel Oil Content Limitation =	0.50	% sulfur
No. 4 Fuel Oil Content Limitation =	0.50	% sulfur
Residual (No. 5 or No. 6) Fuel Oil Content Limitation =	0.00	% sulfur
Used/Waste Oil Content Limitations =	1.00	% sulfur
Diesel Engine Oil (Generator > 600) Content Limitation =	0.50	% sulfur
	1.02	% ash
	0.400	% chlorine,
	0.010	% lead
PM Dryer/Mixer Limitation =	0.375	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.157	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.176	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production
Blast Furnace Slag SO2 Dryer/Mixer Limitation =	0.740	lb/ton of slag processed
Steel Slag SO2 Dryer/Mixer Limitation =	0.0014	lb/ton of slag processed
Cold Mix Asphalt VOC Usage Limitation =	24.90	tons/yr
HCl Limitation =	0.0264	lb/gal

**Limited/Controlled Emissions**

Process Description	Limited/Controlled Potential Emissions (tons/year)								
	Criteria Pollutants						Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2 <sup>2</sup>	NOx <sup>2</sup>	VOC <sup>3</sup>	CO	Total HAPs	Worst Case HAP
<b>Ducted Emissions</b>									
Dryer Fuel Combustion (worst case)	24.48	19.51	19.51				37.77	11.22	9.90 (hydrogen chloride)
Dryer/Mixer (Process) <sup>1</sup>	187.71	78.59	88.04				65.00	5.33	1.55 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	99.0	99.0	24.90	0	0	0
Generator > 600	2.89	1.65	1.65				22.69	4.54E-02	2.24E-02 (benzene)
Generator < 600	0.92	0.92	0.92				2.80	1.14E-02	3.46E-03 (formaldehyde)
Hot Oil Heater Fuel Combustion (worst case)	0.07	0.12	0.12				0.18	0.003	0.002 (formaldehyde)
<b>Worst Case Emissions<sup>4</sup></b>	<b>191.60</b>	<b>81.29</b>	<b>90.73</b>	<b>99.00</b>	<b>99.00</b>	<b>24.90</b>	<b>90.67</b>	<b>11.28</b>	<b>9.90 (hydrogen chloride)</b>
<b>Fugitive Emissions</b>									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.55	0.55	0.55	0	0	see note <sup>3</sup>	1.44	0.14	0.04 (formaldehyde)
Material Storage Piles	2.23	0.78	0.78	0	0	0	0	0	0
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	35.52	9.05	0.91	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	see note <sup>3</sup>	0	6.49	2.24 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	negl	negl
<b>Total Fugitive Emissions</b>	<b>57.40</b>	<b>17.71</b>	<b>8.27</b>	<b>0</b>	<b>0</b>	<b>see note<sup>3</sup></b>	<b>1.44</b>	<b>6.64</b>	<b>2.24 (xylenes)</b>
<b>Totals Limited/Controlled Emissions</b>	<b>249.00</b>	<b>99.00</b>	<b>99.00</b>	<b>99.00</b>	<b>99.00</b>	<b>24.90</b>	<b>92.11</b>	<b>17.92</b>	<b>9.90 (hydrogen chloride)</b>

negl = negligible

Fuel component percentages provided by the source.

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

<sup>1</sup> Based on the unlimited and limited potential to emit, the dryer/mixer process represents the worst case emissions of PM, PM10, PM2.5, and CO. Therefore, the source has elected to limit PM, PM10, PM2.5, and CO emissions to less than Title V and PSD applicability by accepting an asphalt production limit and a lb/ton emission limit (see TSD for more detail).

<sup>2</sup>The source will limit the combined SO2 emissions from the dryer mixer burner, generators, hot oil heater, and slag processing and the combined NOx emissions from the dryer mixer burner, generators, and hot oil heater such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each. In addition, the source will limit the HCl emissions from the combustion of waste oil such that they do not exceed 9.9 tons per year. Compliance with these limits will be demonstrated using equations.

<sup>3</sup>The source will limit the combined VOC emissions from the dryer/mixer process, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold mix asphalt production such that the VOC emissions do not exceed 24.9 tons per year. Compliance will be determined using an equation.

<sup>4</sup>Worst Case PM, PM10, PM2.5, CO, and Total HAPs Emissions (tons/yr) = Worst Case Emissions from Dryer/Mixer + Emissions from Generator > 600 + Emissions from Generator < 600 + Hot Oil Heater.

**ATSD Appendix A: Emissions Calculations  
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/hr  
Limited Emissions**

**Company Name: Rieth-Riley Construction Co., Inc.**  
**Source Address: 1751 West Minnesota Street, Indianapolis, IN 46221**  
**Permit Number: 097-27199-05319**  
**Reviewer: Brian Williams**

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

**Production Limitations and Fuel Usage**

Maximum Hourly Asphalt Production	=	400	ton/hr
Annual Asphalt Production Limitation	=	1,000,000	ton/yr
Natural Gas Usage	=	876	MMCF/yr
No. 2 Fuel Oil Usage	=	2,788,732	gal/yr, and
No. 4 Fuel Oil Usage	=	2,640,000	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage	=	0	gal/yr, and
Propane Usage	=	9,679,558	gal/yr, and
Butane Usage	=	8,993,840	gal/yr, and
Used/Waste Oil Usage	=	750,000	gal/yr, and

  

	0.50	% sulfur
	0.50	% sulfur
	0.00	% sulfur
	0.20	gr/100 ft3 sulfur
	0.22	gr/100 ft3 sulfur
	1.00	% sulfur
	1.02	% ash
	0.400	% chlorine
	0.010	% lead

**Limited Emissions**

Criteria Pollutant	Emission Factor (units)							Limited 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) (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 <sup>10</sup>	7.6	3.3	8.3	3.22	0.5	0.6	85.28	0.83	2.79	9.24	0.00	2.420	2.698	24.48	24.48	
SO <sub>2</sub> <sup>2</sup>	0.6	71.0	75.0	0.0	0.020	0.020	147.0	0.26	99.00	99.00	0.00	0.097	0.089	55.13	99.00	
NO <sub>x</sub> <sup>3</sup>	190	24.0	47.0	47.0	13.0	15.0	19.0	83.22	33.46	62.04	0.00	62.92	67.45	7.13	83.22	
VOC <sup>4</sup>	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.41	0.28	0.26	0.00	4.84	4.95	0.38	4.95	
CO <sup>5</sup>	84	5.0	5.0	5.0	7.5	8.4	5.0	36.79	6.97	6.60	0.00	36.30	37.77	1.88	37.77	
<b>Hazardous Air Pollutant</b>																
HCl <sup>6</sup>							26.4								9.90	9.90
Antimony			5.25E-03	5.25E-03			negl				6.93E-03	0.00E+00			negl	6.9E-03
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	8.8E-05	7.81E-04		1.74E-03	0.00E+00			4.13E-02	4.1E-02
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	5.3E-06	5.86E-04	3.67E-05	0.00E+00				negl	5.9E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	4.8E-04	5.86E-04	5.25E-04	0.00E+00				3.49E-03	3.5E-03
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	6.1E-04	5.86E-04	1.12E-03	0.00E+00				7.50E-03	7.5E-03
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	3.7E-05		7.95E-03	0.00E+00				7.88E-05	7.9E-03
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.2E-04	1.78E-03	1.99E-03	0.00E+00				2.06E-01	0.21
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.7E-04	1.17E-03	3.96E-03	0.00E+00				2.59E-02	0.03
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.1E-04	5.86E-04	1.49E-04	0.00E+00					5.9E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	9.2E-04	5.86E-04	1.12E-01	0.00E+00				4.13E-03	0.112
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.1E-05	2.93E-03	9.02E-04	0.00E+00				negl	2.9E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						3.12E-04	0.00E+00					3.1E-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				9.2E-04		2.82E-04	0.00E+00					9.2E-04
Bis(2-ethylhexyl)phthalate							2.2E-03								8.25E-04	8.3E-04
Dichlorobenzene	1.2E-03						8.0E-07	5.3E-04							3.00E-07	5.3E-04
Ethylbenzene			6.36E-05	6.36E-05						8.40E-05	0.00E+00					8.4E-05
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.3E-02	8.51E-02	4.36E-02	0.00E+00					0.085
Hexane	1.8E+00							0.79								0.788
Phenol							2.4E-03								9.00E-04	9.0E-04
Toluene	3.4E-03		6.20E-03	6.20E-03				1.5E-03		8.18E-03	0.00E+00					8.2E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		1.49E-03	0.00E+00				1.47E-02	1.5E-02
Polycyclic Organic Matter		3.30E-03							4.60E-03							4.6E-03
Xylene			1.09E-04	1.09E-04						1.44E-04	0.00E+00					1.4E-04
<b>Total HAPs</b>							<b>0.83</b>	<b>0.10</b>	<b>0.19</b>	<b>0.00</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>10.20</b>	<b>11.22</b>	

**Methodology**

<sup>1</sup>The natural gas, propane, and butane fuel usage rates were determined using the maximum fuel input rate for the dryer (see Appendix A.1 for more details).  
<sup>2</sup>Based on the unlimited potential to emit, the dryer/mixer process (page 3 of Appendix A.1) represents the worst case emissions of PM, PM<sub>10</sub>, PM<sub>2.5</sub>, and CO. Therefore, the source has elected to limit PM, PM<sub>10</sub>, PM<sub>2.5</sub>, and CO emissions to less than Title V and PSD applicability by accepting an asphalt production limit and a lb/ton emission limit (see page 3 of Appendix A.2 for more details).  
<sup>3</sup>The source will limit the combined SO<sub>2</sub> emissions from the dryer mixer burner, generators, hot oil heater, and slag processing and the combined NO<sub>x</sub> emissions from the dryer mixer burner, generators, and hot oil heater such that the SO<sub>2</sub> and NO<sub>x</sub> emissions do not exceed 99.0 tons per year, each. Compliance with these limits will be demonstrated using equations.  
<sup>4</sup>The source will limit the combined VOC emissions from the dryer/mixer process, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold mix asphalt production such that the VOC emissions do not exceed 24.9 tons per year. Compliance will be determined using an equation.  
<sup>5</sup>Hydrogen Chloride emissions from waste oil combustion shall not exceed 9.90 tons per year. This would be equivalent to combusting 750,000 gallons of waste oil per year with a chlorine content of 0.4%. Compliance with this limit will be demonstrated using an equation.  
**Abbreviations**  
 PM = Particulate Matter  
 PM<sub>10</sub> = Particulate Matter (<10 um)  
 SO<sub>2</sub> = Sulfur Dioxide  
 NO<sub>x</sub> = Nitrous Oxides  
 VOC = Volatile Organic Compounds  
 CO = Carbon Monoxide  
 HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride  
 PAH = Polyaromatic Hydrocarbon

Sources of AP-42 Emission Factors for fuel combustion:  
 Natural Gas: AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4  
 No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11  
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM<sub>10</sub>)  
 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.

**ATSD Appendix A: Emissions Calculations  
Dryer/Mixer  
Limited Process Emissions**

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	1,000,000	ton/yr
PM Dryer/Mixer Limitation =	0.375	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.157	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.176	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM <sup>1</sup>	0.375	0.375	0.375	187.7	187.7	187.7	187.7
PM10 <sup>1</sup>	0.157	0.157	0.157	78.6	78.6	78.6	78.6
PM2.5 <sup>1</sup>	0.176	0.176	0.176	88.0	88.0	88.0	88.0
SO <sub>2</sub> <sup>2,4</sup>	0.003	0.011	0.058	1.7	5.5	29.0	29.0
NO <sub>x</sub> <sup>2,4</sup>	0.026	0.055	0.055	13.0	27.5	27.5	27.5
VOC <sup>2,5</sup>	0.032	0.032	0.032	16.0	16.0	16.0	16.0
CO <sup>4</sup>	0.130	0.130	0.130	65.0	65.0	65.0	65.0
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04			0.11	0.11
Antimony	1.80E-07	1.80E-07	1.80E-07	9.00E-05	9.00E-05	9.00E-05	9.00E-05
Arsenic	5.60E-07	5.60E-07	5.60E-07	2.80E-04	2.80E-04	2.80E-04	2.80E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.05E-04	2.05E-04	2.05E-04	2.05E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	2.75E-03	2.75E-03	2.75E-03	2.75E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.30E-05	1.30E-05	1.30E-05	1.30E-05
Lead	6.20E-07	1.50E-05	1.50E-05	3.10E-04	7.50E-03	7.50E-03	7.50E-03
Manganese	7.70E-06	7.70E-06	7.70E-06	3.85E-03	3.85E-03	3.85E-03	3.85E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	1.20E-04	1.30E-03	1.30E-03	1.30E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	3.15E-02	3.15E-02	3.15E-02	3.15E-02
Selenium	3.50E-07	3.50E-07	3.50E-07	1.75E-04	1.75E-04	1.75E-04	1.75E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	2.00E-02	2.00E-02	2.00E-02	2.00E-02
Acetaldehyde			1.30E-03			0.65	0.65
Acrolein			2.60E-05			1.30E-02	1.30E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.20	0.20	0.20	0.20
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.12	0.12	0.12	0.12
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	1.55	1.55	1.55	1.55
Hexane	9.20E-04	9.20E-04	9.20E-04	0.46	0.46	0.46	0.46
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.02	0.02	0.02	0.02
MEK			2.00E-05			0.01	0.01
Propionaldehyde			1.30E-04			0.07	0.07
Quinone			1.60E-04			0.08	0.08
Toluene	1.50E-04	2.90E-03	2.90E-03	0.08	1.45	1.45	1.45
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.10	0.44	0.44	0.44
Xylene	2.00E-04	2.00E-04	2.00E-04	0.10	0.10	0.10	0.10
<b>Total HAPs</b>							<b>5.33</b>
<b>Worst Single HAP</b>							<b>1.55 (formaldehyde)</b>

**Methodology**

Limited/Controlled Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)  
 Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-4, 11.1-7, 11.1-8, 11.1-10, and 11.1-12  
 Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

<sup>1</sup>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.  
<sup>2</sup>SO<sub>2</sub>, NO<sub>x</sub>, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.  
<sup>3</sup>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.  
<sup>4</sup>The source will limit the combined SO<sub>2</sub> emissions from the dryer mixer burner, generators, hot oil heater, and slag processing and the combined NO<sub>x</sub> emissions from the dryer mixer burner, generators, and hot oil heater such that the SO<sub>2</sub> and NO<sub>x</sub> emissions do not exceed 99.0 tons per year, each. Compliance with these limits will be demonstrated using equations.  
<sup>5</sup>The source will limit the combined VOC emissions from the dryer/mixer process, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold mix asphalt production such that the VOC emissions do not exceed 24.9 tons per year. Compliance will be determined using an equation.

**Abbreviations**

VOC - Volatile Organic Compounds                      HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride                                      PAH = Polyaromatic Hydrocarbon  
 SO<sub>2</sub> = Sulfur Dioxide

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

**Blast Furnace Slag**

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

	Emission Factor or Limitation (lb/ton)*	Limited Potential to Emit (tons/yr)
Criteria Pollutant	Slag Processing	Slag Processing
SO2	0.740	see note**

**Methodology**

\* Testing results for 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 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%. When the 30 day calendar month average sulfur content is less than or equal to 1.11% by weight, an emission factor of 0.5413 lb of SO2 per ton of slag will be used. When the 30 day calendar month average sulfur content is greater than 1.11% and less than or equal to 1.5% by weight, an emission factor of 0.74 lb of SO2 per ton of slag will be used.

\*\* The source will limit the combined SO2 emissions from the dryer mixer burner, generators, hot oil heater, and slag processing such that the SO2 emissions do not exceed 99.0 tons per year. Compliance with this limit will be demonstrated using an equation.

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

**Abbreviations**

SO2 = Sulfur Dioxide

**Steel Slag**

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

	Emission Factor or Limitation (lb/ton)*	Limited Potential to Emit (tons/yr)
Criteria Pollutant	Slag Processing	Slag Processing
SO2	0.0014	see note**

**Methodology**

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

\*\* The source will limit the combined SO2 emissions from the dryer mixer burner, generators, hot oil heater, and slag processing such that the SO2 emissions do not exceed 99.0 tons per year. Compliance with this limit will be demonstrated using an equation.

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

**Abbreviations**

SO2 = Sulfur Dioxide

**ATSD Appendix A: Emission Calculations**  
**Internal Combustion Engines - Diesel Fuel**  
**Generator (>600 HP) Limited Emissions**

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

Generator Maximum Hours of Operation<sup>8</sup> = 

6346.15
---------

 hr/yr  
 Diesel Engine Oil Limitation<sup>8</sup> = 

421,441
---------

 gal/yr

Heat Input Capacity Horsepower (hp) hp-hr/yr S= 

0.50
------

 = WEIGHT % SULFUR

1300.0
--------

8250000.0
-----------

	Pollutant					
	PM	PM10 <sup>2</sup>	SO2 <sup>4</sup>	NOx <sup>3,4</sup>	VOC <sup>5</sup>	CO
Emission Factor in lb/hp-hr <sup>1</sup> or	7.00E-04	4.01E-04	4.05E-03 (.00809S)	0.024	7.05E-04	5.50E-03
Emission Factor in lb/gal <sup>6</sup>	1.37E-02	7.85E-03	0.0792	0.47	0.01	0.11
Potential Emission in tons/yr or	2.89	1.65	16.69	99.00	2.91	22.69
Potential Emission in tons/yr	2.89	1.65	16.69	99.00	2.91	22.69

<sup>1</sup>Emission factors are from AP-42 (Supplement B 10/96) Table 3.4-1.

<sup>2</sup>PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and an average conversion factor of (7,000 Btu / hp-hr). The PM2.5 emissions were assumed to be equal to PM10

<sup>3</sup>NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

<sup>4</sup>The source will limit the combined SO2 emissions from the dryer mixer burner, generators, hot oil heater, and slag processing and the combined NOx emissions from the dryer mixer burner, generators, and hot oil heater such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each.

<sup>5</sup>The source will limit the combined VOC emissions from the dryer/mixer process, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold mix asphalt production such that the VOC emissions do not exceed 24.9 tons per year. Compliance will be determined using an equation.

**Hazardous Air Pollutants (HAPs)**

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs <sup>7</sup>
Emission Factor in lb/hp-hr <sup>8</sup>	5.43E-06	1.97E-06	1.35E-06	5.52E-07	1.76E-07	5.52E-08	1.48E-06
Potential Emission in tons/yr	2.24E-02	8.11E-03	5.57E-03	2.28E-03	7.28E-04	2.28E-04	6.12E-03

<sup>7</sup>PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

<sup>8</sup>Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

<b>Potential Emission of Total HAPs (tons/yr)</b>	<b>4.54E-02</b>
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**Methodology**

Average heating value of diesel was assumed to be 19,300 Btu/lb, with a density of 7.1 lb/gal (AP42 (Supplement B 10/96), Table 3.4-1, Footnote a).

1 hp-hr = 7000 Btu, AP42 (Supplement B 10/96), Table 3.4-1, Footnote e.

No information was given regarding which method was used to determine the PM emission factor or whether condensable PM is included.

The PM10 emission factor is filterable and condensable PM10 combined.

<sup>6</sup>Emission Factor in lb/gal = AP-42 emission factor (lb/hp-hr) \* 1/7000 (hp-hr/btu) \* 1/19300 (lb/btu) \* 1/7.1 (gal/lb)

Potential Throughput (hp-hr/yr) = hp \* 8760 hr/year

Potential Throughput (gal/yr) = 1300 (hp) \* 8760 (hr/yr) \* 7000 (Btu/hp-hr) \* 1/19300 (lb/Btu) \* 1/7.1 (gal/lb)

Potential Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

or

Potential Emissions (tons/yr) = [Potential Throughput (gal/yr) x Emission Factor (lb/gal)] / (2,000 lb/ton)

**ATSD Appendix A: Emission Calculations  
Internal Combustion Engines - Diesel Fuel  
Generator (<600 HP) Limited Emissions**

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

Generator Maximum Hours of Operation = 8760 hr/yr  
 Diesel Engine Oil Usage = 42,831 gal/yr

Heat Input Capacity  
 Horsepower (hp) hp-hr/yr

95.7 838457.1

	Pollutant						
	PM <sup>1</sup>	PM10 <sup>1</sup>	PM2.5 <sup>1</sup>	SO2 <sup>2</sup>	NOx <sup>2</sup>	VOC <sup>3</sup>	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.92	0.92	0.92	0.86	13.00	1.05	2.80
Emission Factor in lb/gal <sup>4</sup>	0.04	0.04	0.04	0.04	0.61	0.05	0.13
Potential Emission in tons/yr	0.92	0.92	0.92	0.86	13.00	1.05	2.80

<sup>1</sup>PM 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.

<sup>2</sup>The source will limit the combined SO2 emissions from the dryer mixer burner, generators, hot oil heater, and slag processing and the combined NOx emissions from the dryer mixer burner, generators, and hot oil heater such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each.

<sup>3</sup>The source will limit the combined VOC emissions from the dryer/mixer process, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold mix asphalt production such that the VOC emissions do not exceed 24.9 tons per year. Compliance will be determined using an equation.

**Hazardous Air Pollutants (HAPs)**

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs <sup>5</sup>
Emission Factor in lb/hp-hr <sup>6</sup>	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	2.74E-03	1.20E-03	8.36E-04	1.15E-04	3.46E-03	2.25E-03	2.71E-04	4.93E-04

<sup>5</sup>PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

<sup>6</sup>Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

<b>Potential Emission of Total HAPs (tons/yr)</b>	<b>1.14E-02</b>
---	-----------------

**Methodology**

Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2

<sup>4</sup>Emission Factor in lb/gal = AP-42 emission factor (lb/hp-hr) \* 1/7000 (hp-hr/btu) \* 1/19300 (lb/btu) \* 1/7.1 (gal/lb)

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

Potential Throughput (gal/yr) = 95.7 (hp) \* 8760 (hr/yr) \* 7000 (Btu/hp-hr) \* 1/19300 (lb/Btu) \* 1/7.1 (gal/lb)

Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] \* [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

or

Potential Emissions (tons/yr) = [Potential Throughput (gal/yr) x Emission Factor (lb/gal)] / (2,000 lb/ton)

**ATSD Appendix A: Emissions Calculations**

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Location:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	0.000	0.072	0.07
PM10/PM2.5	7.6	3.3	0.000	0.119	0.12
SO2*	0.6	71.0	0.000	2.554	2.55
NOx*	100	20.0	0.000	0.720	0.72
VOC**	5.5	0.20	0.000	0.007	0.01
CO	84	5.0	0.000	0.180	0.18
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	5.6E-04	0.0E+00	2.01E-05	2.0E-05
Beryllium	1.2E-05	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Cadmium	1.1E-03	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Chromium	1.4E-03	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Cobalt	8.4E-05		0.0E+00		0.0E+00
Lead	5.0E-04	1.3E-03	0.0E+00	4.53E-05	4.5E-05
Manganese	3.8E-04	8.4E-04	0.0E+00	3.02E-05	3.0E-05
Mercury	2.6E-04	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Nickel	2.1E-03	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Selenium	2.4E-05	2.1E-03	0.0E+00	7.56E-05	7.6E-05
Benzene	2.1E-03		0.0E+00		0.0E+00
Dichlorobenzene	1.2E-03		0.0E+00		0.0E+00
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	0.0E+00	2.19E-03	0.002
Hexane	1.8E+00		0.00		0.000
Phenol					0
Toluene	3.4E-03		0.0E+00		0.0E+00
Total PAH Haps	negl				0
Polycyclic Organic Matter		3.30E-03		1.19E-04	1.2E-04
<b>Total HAPs =</b>			<b>0.0E+00</b>	<b>2.6E-03</b>	<b>0.003</b>

**Methodology**

\*The source will limit the combined SO2 emissions from the dryer mixer burner, generators, hot oil heater, and slag processing and the combined NOx emissions from the dryer mixer burner, generators, and hot oil heater such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each.

\*\*The source will limit the combined VOC emissions from the dryer/mixer process, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold mix asphalt production such that the VOC emissions do not exceed 24.9 tons per year. Compliance will be determined using an equation.

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

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

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

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

Sources of AP-42 Emission Factors for fuel combustion:

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

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

**Abbreviations**

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

**ATSD Appendix A: Emissions Calculations  
Asphalt Load-Out, Silo Filling, and Yard Emissions  
Limited Emissions**

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	1,000,000	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	0.26	0.29	NA	0.55
Organic PM	3.4E-04	2.5E-04	NA	0.17	0.127	NA	0.30
TOC	0.004	0.012	0.001	2.08	6.09	0.550	8.7
CO	0.001	0.001	3.5E-04	0.67	0.590	0.176	1.44

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

<b>PM/HAPs</b>	<b>0.012</b>	<b>0.014</b>	<b>0</b>	<b>0.027</b>
<b>VOC/HAPs</b>	<b>0.031</b>	<b>0.077</b>	<b>0.008</b>	<b>0.116</b>
<b>non-VOC/HAPs</b>	<b>1.6E-04</b>	<b>1.6E-05</b>	<b>4.2E-05</b>	<b>2.2E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.15</b>	<b>0.09</b>	<b>0.04</b>	<b>0.28</b>

<b>Total VOCs**</b>	<b>1.95</b>	<b>6.09</b>	<b>0.5</b>	<b>8.6</b>
<b>Total HAPs</b>	<b>0.04</b>	<b>0.09</b>	<b>0.008</b>	<b>0.14</b>
		<b>Worst Single HAP</b>		<b>0.044</b>
				<b>(formaldehyde)</b>

**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.

\*\*The source will limit the combined VOC emissions from the dryer/mixer process, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold mix asphalt production such that the VOC emissions do not exceed 24.9 tons per year. Compliance will be determined using an equation.

**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

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

**Organic Particulate-Based Compounds (Table 11.1-15)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
<b>PAH HAPs</b>										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	4.4E-04	6.0E-04	NA	1.0E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	4.8E-05	1.8E-05	NA	6.6E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.2E-04	1.7E-04	NA	2.8E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	3.2E-05	7.1E-05	NA	1.0E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.3E-05	0	NA	1.3E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	3.8E-06	0	NA	3.8E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	3.2E-06	0	NA	3.2E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	3.9E-06	0	NA	3.9E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.3E-05	1.2E-05	NA	2.5E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	1.8E-04	2.7E-04	NA	4.4E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	6.3E-07	0	NA	6.3E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	8.5E-05	1.9E-04	NA	2.8E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.3E-03	1.3E-03	NA	2.6E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	8.0E-07	0	NA	8.0E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	4.1E-03	6.7E-03	NA	0.011
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	2.1E-03	2.3E-03	NA	4.4E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	3.8E-05	3.8E-05	NA	7.6E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.4E-03	2.3E-03	NA	3.7E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	2.6E-04	5.6E-04	NA	8.1E-04
<b>Total PAH HAPs</b>							<b>0.010</b>	<b>0.014</b>	<b>NA</b>	<b>0.025</b>
<b>Other semi-volatile HAPs</b>										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.0E-03	0	0	2.0E-03

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

**Methodology**

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

**Abbreviations**

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

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

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

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	100%	<b>1.95</b>	<b>6.09</b>	<b>0.52</b>	<b>8.57</b>
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.4E-01	1.6E-02	3.6E-02	0.187
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	9.6E-04	3.4E-03	2.5E-04	0.005
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.5E-02	6.7E-02	3.9E-03	0.086
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>1.40%</b>	<b>0.152</b>	<b>0.085</b>	<b>0.040</b>	<b>0.28</b>
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.1E-03	1.9E-03	2.9E-04	3.3E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.0E-04	3.0E-04	5.3E-05	5.5E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.0E-03	2.4E-03	2.7E-04	3.7E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	2.7E-04	9.7E-04	7.2E-05	1.3E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	4.4E-06	2.4E-04	1.2E-06	2.5E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	3.1E-04	1.4E-03	8.3E-05	1.8E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	2.3E-03	0	6.1E-04	2.9E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	5.8E-03	2.3E-03	1.5E-03	0.010
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	1.8E-03	4.2E-02	4.8E-04	0.044
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	3.1E-03	6.1E-03	8.3E-04	0.010
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	3.7E-05	1.9E-05	9.9E-06	6.6E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	1.6E-05	0	1.6E-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%	1.5E-04	3.3E-04	4.0E-05	5.2E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	1.6E-04	0	4.2E-05	2.0E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	4.4E-03	3.8E-03	1.2E-03	0.009
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	2.7E-05	0	7.2E-06	3.4E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	8.5E-03	1.2E-02	2.3E-03	0.023
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	1.7E-03	3.5E-03	4.4E-04	5.6E-03
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>1.30%</b>	<b>0.031</b>	<b>0.079</b>	<b>0.008</b>	<b>0.119</b>

**Methodology**

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

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

**Abbreviations**

TOC = Total Organic Compounds

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

MTBE = Methyl tert butyl ether

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

Cold Mix Asphalt VOC Usage Limitation\*\* = 24.9 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%	26.2	24.9	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	35.6	24.9	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	99.6	24.9	4.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	53.7	24.9	2.155
Other asphalt with solvent binder	25.9%	2.5%	996.0	24.9	40.0
<b>Worst Case Limited PTE of VOC** = 24.9</b>					

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>6.49</b>
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>2.24 Xylenes</b>

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

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

**Methodology**

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

\*\*The source will limit the combined VOC emissions from the dryer/mixer process, generators, hot oil heaters, asphalt load-out, silo filling, on-site yard, and cold mix asphalt production such that the VOC emissions do not exceed 24.9 tons per year. Compliance will be determined using an equation.

**Abbreviations**

VOC = Volatile Organic Compounds  
 PTE = Potential to Emit

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

Technical Support Document (TSD) for a New Source Construction and  
Federally Enforceable State Operating Permit (FESOP)

**Source Description and Location**

**Source Name:** Rieth-Riley Construction Co., Inc.  
**Source Location:** Portable  
**Initial Location:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**County:** Marion  
**SIC Code:** 2951  
**Operation Permit No.:** F 097-27199-05319  
**Permit Reviewer:** Brian Williams

On December 1, 2008, the Office of Air Quality (OAQ) has received an application from Rieth-Riley Construction Co., Inc. related to the construction and operation of a new portable drum mix hot asphalt plant that processes slag.

**Existing Approvals**

There have been no previous approvals issued to this source.

**County Attainment Status**

The source is located in Marion County.

Pollutant	Designation
SO <sub>2</sub>	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of Indianapolis bounded by 11 <sup>th</sup> Street on the north; Capitol Avenue on the west; Georgia Street on the south; and Delaware Street on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of Indianapolis and Marion County.
O <sub>3</sub>	Attainment effective November 8, 2007, for the 8-hour ozone standard. <sup>1</sup>
PM <sub>10</sub>	Unclassifiable effective November 15, 1990.
NO <sub>2</sub>	Cannot be classified or better than national standards.
Pb	Attainment effective July 10, 2000, for the part of Franklin Township bounded by Thompson Road on the south; Emerson Avenue on the west; Five Points Road on the east; and Troy Avenue on the north. Attainment effective July 10, 2000, for the part of Wayne Township bounded by Rockville Road on the north; Girls School Road on the east; Washington Street on the south; and Bridgeport Road on the west. The remainder of the county is not designated.
<sup>1</sup> Attainment effective October 18, 2000, for the 1-hour ozone standard for the Indianapolis area, including Marion 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. Basic nonattainment designation effective federally April 5, 2005, for PM2.5.	

- (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. Marion 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) **PM2.5**  
Marion County has been classified as nonattainment for PM2.5 in 70 FR 943 dated January 5, 2005. On May 8<sup>th</sup>, 2008, U.S. EPA promulgated specific New Source Review rules for PM2.5 emissions, and the effective date of these rules was July 15<sup>th</sup>, 2008. Therefore, direct PM2.5 and SO2 emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.
- (c) **Other Criteria Pollutants**  
Marion County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

#### **Fugitive Emissions**

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

#### **Background and Description of New Source Construction**

The Office of Air Quality (OAQ) has reviewed an application, submitted by Rieth-Riley Construction Co., Inc. on December 1, 2008, relating to the construction and operation of a new portable hot mix asphalt plant.

The following is a list of the new emission unit(s) and pollution control device(s):

- (a) One (1) portable aggregate drum dryer/mixer, identified as EU-1, approved for construction in 2009, with a maximum capacity of 400 tons of asphalt per hour, processing slag in the aggregate mix, equipped with one (1) dryer/mixer burner, having a maximum heat input capacity of 100 MMBtu per hour, firing waste oil as primary fuel, using No. 2 fuel oil, No. 4 fuel oil, natural gas, propane gas, and butane gas as backup fuels, equipped with a baghouse for particulate control, and exhausting through Stack SV1.  
  
This unit is considered an affected hot-mix asphalt facility under 40 CFR 60, Subpart I.
- (b) Material handling and conveying operations, approved for construction in 2009, consisting of the following:
  - (1) Aggregate storage piles consisting of sand, gravel, limestone, recycled asphalt pavement, and slag;
  - (2) One (1) conveyor;
  - (3) Five (5) cold feed bins;
  - (4) One (1) Recycled Asphalt Pavement (RAP) feed bin;
  - (5) One (1) screening system; and

- (6) One (1) hot mix asphalt storage silo.
- (c) One (1) liquid asphalt cement storage tank, identified as EU-3, approved for construction in 2009, with a maximum storage capacity of 40,000 gallons.
- (d) One (1) liquid asphalt cement storage tank, identified as EU-4, approved for construction in 2009, with a maximum storage capacity of 31,000 gallons.
- (e) One (1) waste oil storage tank, identified as EU-5, approved for construction in 2009, with a maximum storage capacity of 44,000 gallons.
- (f) One (1) No. 2 fuel oil storage tank, identified as EU-6, approved for construction in 2009, with a maximum storage capacity of 15,000 gallons.
- (g) One (1) diesel fired generator, identified as EU-7, manufactured in 1989, approved for construction in 2009, with a maximum power output rate of 1,300 horsepower, and exhausting through Stack SV7.

This unit is considered an affected source under 40 CFR 63, Subpart ZZZZ.

- (h) One (1) diesel fired generator, identified as EU-8, manufactured in 1998, approved for construction in 2009, with a maximum power output rate of 95.7 horsepower, and exhausting through Stack SV8.

This unit is considered an affected source under 40 CFR 63, Subpart ZZZZ.

- (i) Cold-mix cutback asphalt production and storage piles, approved for construction in 2009.

The following is a list of the Insignificant Activities:

- (a) One (1) hot oil heater, identified as EU-2, approved for construction in 2009, with a maximum heat input capacity of 1.15 MMBtu per hour, firing No. 2 fuel oil, and exhausting through Stack SV2.
- (b) A petroleum fuel, other than gasoline, dispensing facility, having a storage tank capacity less than or equal to ten thousand five hundred (10,500) gallons, and dispensing three thousand five hundred (3,500) gallons per day or less.
- (c) Paved and unpaved roads and parking lots with public access.

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

<b>Emission Calculations</b>
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See Appendix A of this TSD for detailed emission calculations.

<b>Permit Level Determination – FESOP</b>
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The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	49256.47
PM10 <sup>(1)</sup>	11451.41
PM2.5	2658.33
SO <sub>2</sub>	1030.87
NO <sub>x</sub>	297.41
VOC	42200.47
CO	267.11

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

HAPs	Potential To Emit (tons/year)
Hydrogen Chloride	82.59
Xylene	3789.84
<b>TOTAL HAPs<sup>(1)</sup></b>	<b>11070.67</b>

(1) See Appendix A of TSD for more details regarding the potential to emit HAPs.

(a) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) of PM10, PM2.5, SO2, NOx, VOC, and CO is greater than one hundred (100) tons per year. The source would have been subject to the provisions of 326 IAC 2-7. However, the source will be issued (a New Source Construction Permit (326 IAC 2-5.1-3) and) a Federally Enforceable State Operating Permit (FESOP) (326 IAC 2-8), because the source will limit emissions to less than the Title V major source threshold levels.

(b) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) of any single HAP is greater than ten (10) tons per year and the PTE of a combination of HAPs is greater than twenty-five (25) tons per year. Therefore, the source would have been subject to the provisions of 326 IAC 2-7. However, the source will be issued (a New Source Construction Permit (326 IAC 2-5.1-3) and) a FESOP (326 IAC 2-8), because the source will limit emissions of HAPs to less than the Title V major source threshold levels.

(c) Portable Source

(1) Initial Location

This is a portable source and its initial location is 1751 West Minnesota Street, Indianapolis, IN 46221.

(2) PSD and Emission Offset Requirements

This portable source is allowed to operate in all areas of Indiana except Lake County, Porter County, and in areas that are designated as extreme, severe, or serious non-attainment for any National Ambient Air Quality Standard. This determination is based on the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-3 (Emission Offset), 326 IAC 2-6 (Emission Reporting), 326 IAC 5-1 (Opacity Limitations), and 326 IAC 6.8-11 (Lake County: Particulate Matter Contingency Measures).

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

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

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of FESOP (tons/year)								
	PM	PM10*	PM2.5	SO <sub>2</sub> **	NO <sub>x</sub> **	VOC	CO	Total HAPs	Worst Single HAP
<b>Ducted Emissions</b>									
Fuel Combustion (worst case)	24.48	19.51	19.51	99.0	99.0	4.95	37.77	11.22	9.90 HCl
Dryer/Mixer (Process)	187.72	78.59	88.04			16.0	65.0	5.33	1.55 Formaldehyde
Dryer/Mixer Slag Processing	0	0	0			0	0	0	0
Generator > 600 (EU-7)	2.89	1.65	1.65			2.91	22.69	0.045	0.022 Benzene
Generator < 600 (EU-8)***	0.92	0.92	0.92			1.05	2.80	0.011	0.035 Formaldehyde
Hot Oil Heater Fuel Combustion (worst case)***	0.07	0.12	0.12			0.01	0.18	0.003	0.002 Formaldehyde
<b>Worst Case Emissions</b>	<b>191.60</b>	<b>81.29</b>	<b>90.73</b>	<b>99.0</b>	<b>99.0</b>	<b>19.97</b>	<b>90.67</b>	<b>11.28</b>	<b>9.90 HCl</b>
<b>Fugitive Emissions</b>									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.55	0.55	0.55	0	0	8.57	1.44	0.14	0.04 Formaldehyde
Material Storage Piles	2.23	0.78	0.78	0	0	0	0	0	0
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	35.52	9.05	0.91	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	48.22	0	12.58	4.34 xylene
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl.	0	negl.	negl.
<b>Total Fugitive Emissions</b>	<b>57.40</b>	<b>17.71</b>	<b>8.27</b>	<b>0</b>	<b>0</b>	<b>56.79</b>	<b>1.44</b>	<b>12.72</b>	<b>4.34 xylene</b>
<b>Total PTE of Entire Source</b>	<b>249.0</b>	<b>99.0</b>	<b>99.0</b>	<b>99.0</b>	<b>99.0</b>	<b>76.76</b>	<b>92.11</b>	<b>24.0</b>	<b>9.9 HCl</b>
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

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of FESOP (tons/year)								
	PM	PM10*	PM2.5	SO <sub>2</sub> **	NO <sub>x</sub> **	VOC	CO	Total HAPs	Worst Single HAP
negl. = negligible * 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 source will limit the combined SO <sub>2</sub> and NO <sub>x</sub> emissions from the dryer/mixer burner, slag processing (SO <sub>2</sub> emissions only), generators, and hot oil heater such that the SO <sub>2</sub> and NO <sub>x</sub> emissions do not exceed 99.0 tons per year, each. **** PM, PM10, PM2.5, VOC, CO, and HAPs emissions unlimited.									

(a) FESOP Status

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

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

- (1) Pursuant to 326 IAC 2-8-4, the PM10, PM2.5, CO, and VOC emissions from the dryer/mixer burner shall be limited as follows:
  - (A) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
  - (B) PM10 emissions from the dryer/mixer shall not exceed 0.157 pounds of PM10 per ton of asphalt produced.
  - (C) PM2.5 emissions from the dryer/mixer shall not exceed 0.176 pounds of PM2.5 per ton of asphalt produced.
  - (D) CO emissions from the dryer/mixer shall not exceed 0.130 pounds of CO per ton of asphalt produced.
  - (E) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.
  
- (2) Pursuant to 326 IAC 2-8-4, the SO<sub>2</sub>, NO<sub>x</sub>, and HCl emissions from the dryer/mixer burner, generators, hot oil heater, and slag processing shall be limited as follows:
  - (A) Sulfur Content and Waste Oil Specifications
    - (i) The 30 day calendar month average sulfur content of the slag shall not exceed 1.5 percent by weight, with compliance determined at the end of each month.
    - (ii) SO<sub>2</sub> emissions from the slag used in the dryer/mixer shall not exceed 0.74 pounds of SO<sub>2</sub> per ton of slag processed.
    - (iii) The sulfur content of the No. 2 fuel oil shall not exceed 0.5 percent by weight.
    - (iv) The sulfur content of the No. 4 fuel oil shall not exceed 0.5 percent by weight.
    - (v) The sulfur content of the diesel fuel shall not exceed 0.5 percent by weight.

- (vi) The sulfur content of the waste oil shall not exceed 1.0 percent by weight.
  - (vii) The chlorine content of the waste oil shall not exceed 0.4 percent by weight.
  - (viii) HCl emissions from the dryer/mixer shall not exceed 0.0264 pounds of HCl per gallon of waste oil burned.
- (C) SO<sub>2</sub> emissions from the dryer/mixer burner, generators, hot oil heater, and slag processing shall not exceed 99.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- Compliance with the SO<sub>2</sub> emissions limit will be demonstrated by the use of an equation. SO<sub>2</sub> emissions from the use of slag will be determined using a two-tiered approach (i.e. different SO<sub>2</sub> emission factors will be used depending on the 30 day calendar month average sulfur content of the slag). In addition, there will be an equation that allows the source to take into account the actual sulfur content of the waste oil used.
- (D) NO<sub>x</sub> emissions from the dryer/mixer burner, generators, and hot oil heater shall not exceed 99.0 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (E) HCl emissions dryer/mixer burner, generators, and hot oil heater shall not exceed 9.9 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

The source will determine compliance with the SO<sub>2</sub>, NO<sub>x</sub>, and HCl limits as specified in the compliance determination section of the permit.

- (3) Pursuant to 326 IAC 2-8-4, the VOC emissions from cold mix asphalt production shall be limited as follows:
- (A) VOC emissions from the sum of the binders shall not exceed 48.22 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
  - (B) Liquid binder used in the production of cold mix asphalt shall be defined as follows:
    - (i) Cut back asphalt rapid cure, containing a maximum of 25.3% by weight of VOC solvent in the liquid binder and 95% by weight of VOC solvent evaporating.
    - (ii) Cut back asphalt medium cure, containing a maximum of 28.6% by weight of VOC solvent in the liquid binder and 70% by weight of VOC solvent evaporating.
    - (iii) Cut back asphalt slow cure, containing a maximum of 20% by weight of VOC solvent in the liquid binder and 25% by weight of VOC solvent evaporating.
    - (iv) Emulsified asphalt with solvent, containing a maximum of 15% by weight of VOC solvent in the liquid binder and 46.4% by weight of VOC solvent evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be 7% or less of the total emulsion by volume
    - (v) Other asphalt with solvent binder, containing a maximum of 25.9% by weight of VOC solvent in the liquid binder and 2.5% by weight of VOC solvent evaporating.
  - (C) The liquid binder used in the production of cold mix asphalt shall be limited as follows:
    - (i) The amount of VOC solvent used in rapid cure cut back asphalt shall not exceed

50.8 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

- (ii) The amount of VOC solvent used in medium cure cut back asphalt shall not exceed 68.9 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (iii) The amount of VOC solvent used in slow cure cut back asphalt shall not exceed 192.9 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (iv) The amount of VOC solvent used in emulsified asphalt shall not exceed 103.9 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (v) The amount of VOC solvent used in all other asphalt shall not exceed 1928.9 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (vi) The VOC solvent allotments in (i) through (v) above shall be adjusted when more than one type of binder is used per twelve (12) consecutive month period with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment factor listed in the table that follows.

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

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

Compliance with these limits, combined with the potential to emit PM10, PM2.5, SO2, NOx, VOC, CO, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, SO2, NOx, VOC, and CO to less than 100 tons per twelve (12) consecutive month period, each, any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-1.1-5 (Nonattainment New Source Review), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

(b) PSD Minor Source

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

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

- (1) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) PM emissions from the dryer/mixer shall not exceed 0.375 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 250 tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

- (d) **Nonattainment New Source Review**  
This existing source is not a major stationary source, under 326 IAC 2-1.1-5 (Nonattainment New Source Review), because the potential to emit particulate matter with a diameter less than ten 2.5 micrometers (PM<sub>2.5</sub>), is limited to less than 100 tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements do not apply.

<b>Federal Rule Applicability Determination</b>
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New Source Performance Standards (NSPS)

- (a) This source is subject to the New Source Performance Standards for Hot Mix Asphalt Facilities, 40 CFR 60, Subpart I, because it is a hot mix asphalt plant that commenced construction after June 11, 1973.

The units subject to this rule include the following:

- (1) Dryers
- (2) Systems for screening, handling, storing, and weighing hot aggregate
- (3) Systems for loading, transferring, and storing mineral filler
- (4) Systems for mixing hot mix asphalt
- (5) The loading, transfer, and storage systems associated with emission control systems

Applicable portions of the NSPS are the following:

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

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the source except as otherwise specified in 40 CFR 60, Subpart I.

- (b) The requirements of the New Source Performance Standard for Asphalt Processing and Asphalt Roofing Manufacture, 40 CFR 60, Subpart UU (326 IAC 12), are not included in the permit, since pursuant to 40 CFR 60.471, the hot mix asphalt plant is not an asphalt processing plant because it does not blow asphalt or an asphalt roofing plant because it does not produce asphalt roofing products.
- (c) The requirements of the New Source Performance Standard for Nonmetallic Mineral Processing Plants (40 CFR 60, Subpart OOO) (326 IAC 12), are not included in the permit, because this source is subject to the requirements of 40 CFR 60, Subpart I.
- (d) The requirements of the New Source Performance Standard (NSPS) for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (40 CFR Part 60, Subpart Kb) (326 IAC 12) are not included

in the permit for the storage tanks (EU-4 through EU-7). The construction of the storage tanks will commence after July 23, 1984 and the liquid asphalt storage tank (EU-5) has a capacity greater than 75 cubic meters (19,813 gallons) and less than 151 cubic meters (39,890 gallons). However, this tank will not store liquids with a maximum true vapor pressure greater than 15.0 kPa. The liquid asphalt storage tank (EU-4) and the waste oil storage tank (EU-6) each have a capacity greater than 151 cubic meters (39,890 gallons). However, these tanks will not store liquids with a maximum true vapor pressure greater than 3.5 kPa. Finally, the No. 2 fuel oil storage tank (EU-7) has a maximum capacity less than 75 cubic meters (19,813 gallons).

- (e) The stationary diesel generators, identified as EU-7 and EU-8, will commence construction after July 11, 2005, but were manufactured before April 1, 2006. Therefore, the diesel generators are not subject to the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines (326 IAC 12, 40 CFR 60.4200 - 4209, Subpart IIII).
- (f) There are no other New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

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

- (g) The diesel fired generators (EU-7 and EU-8) are subject the requirements of the 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Reciprocating Internal Combustion Engines (326 IAC 20-82), because they are each considered a new stationary reciprocating internal combustion engine (RICE) at an area source of hazardous air pollutants (HAP) and were constructed after June 12, 2006. The diesel fired generators are subject the following applicable portions of the NESHAP for new stationary RICE at an area source of HAPs:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585(a), (c), and (d)
- (3) 40 CFR 63.6590(a)(2)(iii) and (c)
- (4) 40 CF 63.6665
- (5) 40 CFR 63.6675

Pursuant to 40 CFR 63.6665, the diesel fired generators do not have to meet the requirements of 40 CFR 63, Subpart A (General Provisions), since they each are stationary RICE's located at an area source of HAP emissions.

- (h) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart LLLLL (326 IAC 20-(number)), are not included in the permit, since the hot mix asphalt plant is not a major source of HAPs, is not located at and is not part of a major source of HAP emissions, and does not engage in the preparation of asphalt flux or asphalt roofing materials.
- (i) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

#### Compliance Assurance Monitoring (CAM)

- (j) 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.

<b>State Rule Applicability Determination</b>
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The following state rules are applicable to the source:

- (a) 326 IAC 2-8-4 (FESOP)

FESOP applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.

- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))  
PSD applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.
- (c) 326 IAC 2-3 (Emission Offset) and (for PM2.5 nonattainment counties) 326 IAC 2-1.1-5 (Nonattainment New Source Review)  
Emission Offset (and Nonattainment New Source Review) applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.
- (d) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))  
The unlimited potential to emit of HAPs from the new units is greater than ten (10) tons per year for any single HAP and/or greater than twenty-five (25) tons per year of a combination of HAPs. However, the source shall limit the potential to emit of HAPs from the new units to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the source is not subject to the requirements of 326 IAC 2-4.1. See PTE of the Entire Source After Issuance of the FESOP Section above.
- (e) 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.
- (f) 326 IAC 5-1 (Opacity Limitations)  
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
  - (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in any County except Lake or the areas specified in (2)(a) through (g).
  - (2) 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, when the source is located in the following areas listed in 326 IAC 5-1-1(c):
    - (a) Clark County (Jefferson Township - Cities of Jeffersonville, Clarksville, Oak Park);
    - (b) Dearborn County (Lawrenceburg Township - Cities of Lawrenceburg and Greendale);
    - (c) Dubois County (Bainbridge Township - the City of Jasper);
    - (d) Marion County (except the area of Washington Township east of Fall Creek and the area of Franklin Township south of Thompson Road and east of Five Points Road);
    - (e) St. Joseph County (the area north of Kern Road and east of Pine Road);
    - (f) Vanderburgh County (the area included in the City of Evansville and Pigeon Township); and
    - (g) Vigo County (Indiana State University campus, 0.5km radius around UTM Easting 464,519.00, Northing 4,369,208.00, Zone 16.
  - (3) 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, when the source is located in any County.

- (g) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)  
The source is subject to the requirements of 326 IAC 6-4, because the Asphalt Load-Out and On-Site Yard, Material Storage Piles, Material Processing and Handling, Material Crushing, Screening, and Conveying, and Unpaved and Paved Roads each have the potential to emit fugitive particulate emissions. 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)  
The source is subject to the requirements of 326 IAC 6-5, because the Asphalt Load-Out and On-Site Yard, Material Storage Piles, Material Processing and Handling, Material Crushing, Screening, and Conveying, and Unpaved and Paved Roads have potential fugitive particulate emissions greater than 25 tons per year. Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan, submitted on *(date)*, which is included as Attachment A to the permit.

#### Asphalt Plant

- (a) 326 IAC 6-2 (Emission Limitations for Sources of Indirect Heating)  
The dryer/mixer is not subject to the requirements of 326 IAC 6-2 because it is not a source of indirect heating.
- (b) 326 IAC 6.5-1-2(a) (Nonattainment Area PM Limitations)  
This new portable asphalt plant has the potential to emit PM before controls greater than 100 tons per year and may be relocated to Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties. Pursuant to 6.5-1-2(a), PM emissions from the dryer/mixer shall 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)) when the source is located in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties.

In order to comply with the requirements of 326 IAC 6.5-1-2, particulate from the dryer/mixer shall be controlled by the baghouse at all times that the dryer/mixer is in operation.

- (c) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)  
Particulate emissions from this asphalt plant are subject to a more stringent particulate requirement in 40 CFR 60, Subpart I, and the particulate emissions are limited by 326 IAC 6.5 when operating in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties. Therefore, the asphalt plant is exempt from the requirements of 326 IAC 6-3 when operating in any county.
- (d) 326 IAC 7-1.1-2 (Sulfur Dioxide (SO<sub>2</sub>) Emission Limitations)  
Pursuant to 326 IAC 7-1.1-1, the dryer/mixer is subject to the requirements of 326 IAC 7-1.1-2, because it has potential sulfur dioxide emissions greater than twenty-five (25) tons per year. Pursuant to 7-1.1-2, sulfur dioxide emissions from the dryer/mixer shall not exceed five-tenths (0.5) pound per MMBtu for distillate oil combustion and one and six-tenths (1.6) pounds per MMBtu for residual oil combustion. Note: No. 2 fuel oil is distillate oil and No. 4 fuel oil and waste oil are residual oils.
- (e) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)  
The unlimited VOC potential emissions from the dryer/mixer are greater than twenty-five (25) tons per year. However, the source shall limit the VOC potential emissions from the dryer/mixer to less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 do not apply.

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

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

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

- (f) 326 IAC 8-5-2 (Miscellaneous operations: asphalt paving)  
Any paving application made after January 1, 1980, is subject to the requirements of 326 IAC 8-5-2. Pursuant to this rule, no person shall cause or allow the use of cutback asphalt or asphalt emulsion containing more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:
  - (a) penetrating prime coating
  - (b) stockpile storage
  - (c) application during the months of November, December, January, February and March.
- (g) 326 IAC 12 (New Source Performance Standards)  
See Federal Rule Applicability Section of this TSD.
- (h) 326 IAC 20 (Hazardous Air Pollutants)  
See Federal Rule Applicability Section of this TSD.

#### Storage Tanks

- (a) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)  
Each new storage tank is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each new storage tank is less than twenty-five (25) tons per year.

- (b) 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)  
The two (2) storage tanks, identified as EU-5 and EU-7 are not subject to the requirements of 326 IAC 8-4-3 because they are not petroleum liquid storage vessels with capacities greater than thirty-nine thousand (39,000) gallons. The two (2) storage tanks, identified as EU-4 and EU-6 are not subject to the requirements of 326 IAC 8-4-3 because they each have a maximum capacity greater than 39,000 gallons, but do not store volatile organic compounds whose vapor pressure is greater than 1.52 psi.
- (c) 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)  
This portable source can relocate to Clark or Floyd Counties and the two (2) storage tanks, identified as EU-5 and EU-7, each have a capacity of less than thirty-nine thousand (39,000) gallons. Pursuant to 326 IAC 8-9-1(b), the storage tanks (EU-5 and EU-7) are subject to reporting and recordkeeping provisions of section 6(a) and 6(b) of this rule and are exempt from all other provisions of this rule when the source is located in Clark or Floyd Counties. The two (2) storage tanks, identified as EU-4 and EU-6 are not subject to the requirements of 326 IAC 8-9 because they each have a maximum capacity greater than 39,000 gallons, but do not store volatile organic liquid with a maximum true vapor pressure equal to or greater than 0.5 psi.

Pursuant to 326 IAC 8-9-6(b), the Permittee shall maintain a record and submit to IDEM, OAQ a report containing the following information for the storage tanks (EU-5 and EU-7) when the source is located in Clark or Floyd Counties.

- (1) the tank identification number;
- (2) the tank dimensions; and
- (3) the tank capacity.

Pursuant to 326 IAC 8-9-6(a), these records shall be maintained for the life of the tank.

#### Generators

- (a) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)  
The generators are not subject to 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating), because, pursuant to 326 IAC 1-2-19, these emission units do not meet the definition of an indirect heating unit.
- (b) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)  
The generators are exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight.
- (c) 326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations)  
The generators are not subject to 326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations) because the potential to emit sulfur dioxide from each unit is less than twenty-five (25) tons per year and ten (10) pounds per hour, each.
- (d) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)  
The generators are not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each unit is less than twenty-five (25) tons per year.
- (e) 326 IAC 9-1-1 (Carbon Monoxide Emission Limits)  
The generators are not subject to 326 IAC 9-1-1 (Carbon Monoxide Emission Limits) because there is no applicable emission limits for the source under 326 IAC 9-1-2.

- (f) 326 IAC 12 (New Source Performance Standards)  
 See Federal Rule Applicability Section of this TSD.
- (g) 326 IAC 20 (Hazardous Air Pollutants)  
 See Federal Rule Applicability Section of this TSD.

**Compliance Determination, Monitoring and Testing Requirements**

- (a) The compliance determination and monitoring requirements applicable to this source are as follows:

Emission Unit/Control	Operating Parameters	Frequency
Dryer/Mixer Baghouse CD-1	Visible Emissions Notations	Once per day
Dryer/Mixer Baghouse CD-1	Pressure Drop	Once per day

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

Testing Requirements				
Emission Unit	Control Device	Pollutant	Timeframe for Testing	Frequency of Testing
Dryer/Mixer	Baghouse CD-1	PM	180 days after initial startup	Once every five (5) years
Dryer/Mixer	Baghouse CD-1	PM10 and PM2.5	180 days after publication of the new or revised test method or within 180 days after initial startup, whichever is later	Once every five (5) years

**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 December 1, 2008.

The construction and operation of this source shall be subject to the conditions of the attached proposed New Source Construction and FESOP No. 097-27199-05319. The staff recommends to the Commissioner that this New Source Construction and FESOP be approved.

**IDEM Contact**

- (a) Questions regarding this proposed permit can be directed to Brian Williams 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) (234-5375) or toll free at 1-800-451-6027 extension (4-5375).
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.idem.in.gov](http://www.idem.in.gov)

**Appendix A.1: Emissions Calculations  
Unlimited Emission Summary**

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

**Asphalt Plant Maximum Capacity**

Maximum Hourly Asphalt Production =	400	ton/hr							
Maximum Annual Asphalt Production =	3,504,000	ton/yr							
Maximum Annual Slag Usage =	1,471,680	ton/yr		1.5	% sulfur				
Maximum Dryer Fuel Input Rate =	100.0	MMBtu/hr							
Natural Gas Usage =	876	MMCF/yr							
No. 2 Fuel Oil Usage =	6,257,143	gal/yr, and		0.50	% sulfur				
No. 4 Fuel Oil Usage =	6,257,143	gal/yr, and		0.50	% sulfur				
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and		0.50	% sulfur				
Propane Usage =	9,679,558	gal/yr, and		0.20	gr/100 ft3 sulfur				
Butane Usage =	8,993,840	gal/yr, and		0.22	gr/100 ft3 sulfur				
Used/Waste Oil Usage =	6,257,143	gal/yr, and		1.00	% sulfur	1.02	% ash	0.400	% chlorine,
Diesel Engine Oil Usage (Generator > 600) =	581,741	gal/yr, and		0.50	% sulfur				0.010
Diesel Engine Oil Usage (Generator < 600) =	42,831	gal/yr, and							
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production							
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production							
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production							
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production							
Unlimited CO Dryer/Mixer Emission Factor =	0.13	lb/ton of asphalt production							
Unlimited Slag SO2 Dryer/Mixer Emission Factor =	0.74	lb/ton of slag processed							

**Unlimited/Uncontrolled Emissions**

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)								
	Criteria Pollutants							Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP
<b>Ducted Emissions</b>									
Dryer Fuel Combustion (worst case)	204.23	162.75	162.75	459.90	147.04	4.95	37.77	86.42	82.59 (hydrogen chloride)
Dryer/Mixer (Process)	49056.00	11388.00	2628.00	101.62	96.36	56.06	227.76	18.68	5.43 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	544.52	0	0	0	0	0
Generator > 600	4.0	2.3	2.3	23.0	136.7	4.0	31.3	6.27E-02	3.09E-02 (benzene)
Generator < 600	0.9	0.9	0.9	0.9	13.0	1.1	2.8	1.14E-02	3.46E-03 (formaldehyde)
Hot Oil Heater Fuel Combustion (worst case)	0.07	0.12	0.12	2.55	0.72	0.01	0.18	0.003	0.002 (formaldehyde)
<b>Worst Case Emissions*</b>	<b>49060.98</b>	<b>11391.32</b>	<b>2631.32</b>	<b>1030.87</b>	<b>297.41</b>	<b>61.14</b>	<b>262.06</b>	<b>86.50</b>	<b>82.59</b> (hydrogen chloride)
<b>Fugitive Emissions</b>									
Asphalt Load-Out, Silo Filling, On-Site Yard	1.94	1.94	1.94	0	0	30.01	5.05	0.50	0.16 (formaldehyde)
Material Storage Piles	2.23	0.78	0.78	0	0	0	0	0	0
Material Processing and Handling	11.32	5.35	0.81	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	55.59	20.31	20.31	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	124.40	31.71	3.17	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	42109.32	0	10983.67	3789.84 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0.00	0.00 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	negl	0
<b>Total Fugitive Emissions</b>	<b>195.49</b>	<b>60.09</b>	<b>27.01</b>	<b>0</b>	<b>0</b>	<b>42139.33</b>	<b>5.05</b>	<b>10984.17</b>	<b>3789.84</b> (xylenes)
<b>Totals Unlimited/Uncontrolled PTE</b>	<b>49256.47</b>	<b>11451.41</b>	<b>2658.33</b>	<b>1030.87</b>	<b>297.41</b>	<b>42200.47</b>	<b>267.11</b>	<b>11070.67</b>	<b>3789.84</b> (xylenes)

negl = negligible

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

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

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

**Maximum Capacity**

Maximum Hourly Asphalt Production =	400	ton/hr
Maximum Annual Asphalt Production =	3,504,000	ton/yr
Maximum Fuel Input Rate =	100	MMBtu/hr
Natural Gas Usage =	876	MMCF/yr
No. 2 Fuel Oil Usage =	6,257,143	gal/yr, and
No. 4 Fuel Oil Usage =	6,257,143	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and
Propane Usage =	9,679,558	gal/yr, and
Butane Usage =	8,993,840	gal/yr, and
Used/Waste Oil Usage =	6,257,143	gal/yr, and
	0.50	% sulfur
	0.50	% sulfur
	0.50	% sulfur
	0.20	gr/100 ft3 sulfur
	0.22	gr/100 ft3 sulfur
	1.00	% sulfur
	1.02	% ash
	0.400	% chlorine
	0.010	% 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	7.815	0.5	0.6	65.3	0.83	6.26	21.90	0.00	2.420	2.698	204.23	<b>204.23</b>	
PM10/PM2.5	7.6	3.3	8.3	9.315	0.5	0.6	52.02	3.33	10.32	25.97	0.00	2.420	2.698	162.75	<b>162.75</b>	
SO2	0.6	71.0	75.0	78.5	0.020	0.020	147.0	0.26	222.13	234.64	0.00	0.097	0.089	459.90	<b>459.90</b>	
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	83.22	75.09	147.04	0.00	62.92	67.45	59.44	<b>147.04</b>	
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.41	0.63	0.63	0.00	4.84	4.95	3.13	<b>4.95</b>	
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	36.792	15.64	15.64	0.00	36.30	37.77	15.64	<b>37.77</b>	
<b>Hazardous Air Pollutant</b>																
HCl							26.4								82.59	<b>82.59</b>
Antimony			5.25E-03	5.25E-03			negl			1.64E-02	0.00E+00				negl	<b>1.6E-02</b>
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	8.8E-05	1.75E-03	4.13E-03	0.00E+00			3.44E-01	<b>3.4E-01</b>	
Beryllium	1.2E-05	4.2E-04	2.79E-05	2.79E-05			negl	5.3E-06	1.31E-03	8.70E-05	0.00E+00				negl	<b>1.3E-03</b>
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.9E-03	4.8E-04	1.31E-03	1.25E-03	0.00E+00				2.91E-02	<b>2.9E-02</b>
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	6.1E-04	1.31E-03	2.64E-03	0.00E+00				6.26E-02	<b>6.3E-02</b>
Cobalt	8.4E-05	6.02E-03	6.02E-03	6.02E-03			2.1E-04	3.7E-05		1.88E-02	0.00E+00				6.57E-04	<b>1.9E-02</b>
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.2E-04	3.94E-03	4.72E-03	0.00E+00			1.7E+00	<b>1.72</b>	
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.7E-04	2.63E-03	9.39E-03	0.00E+00			2.13E-01	<b>0.21</b>	
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.1E-04	1.31E-03	3.54E-04	0.00E+00					<b>1.3E-03</b>
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	9.2E-04	1.31E-03	2.64E-01	0.00E+00			3.44E-02	<b>0.264</b>	
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.1E-05	6.57E-03	2.14E-03	0.00E+00			negl	<b>6.6E-03</b>	
1,1,1-Trichloroethane			2.36E-04	2.36E-04						7.38E-04	0.00E+00					<b>7.4E-04</b>
1,3-Butadiene																<b>0.0E+00</b>
Acetaldehyde																<b>0.0E+00</b>
Acrolein																<b>0.0E+00</b>
Benzene	2.1E-03		2.14E-04	2.14E-04				9.2E-04		6.70E-04	0.00E+00					<b>9.2E-04</b>
Bis(2-ethylhexyl)phthalate							2.2E-03								6.88E-03	<b>6.9E-03</b>
Dichlorobenzene	1.2E-03						8.0E-07	5.3E-04						2.50E-06	<b>5.3E-04</b>	
Ethylbenzene			6.36E-05	6.36E-05						1.99E-04	0.00E+00					<b>2.0E-04</b>
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.3E-02	1.91E-01	1.03E-01	0.00E+00					<b>0.191</b>
Hexane	1.8E+00							0.79								<b>0.788</b>
Phenol							2.4E-03							7.51E-03	<b>7.5E-03</b>	
Toluene	3.4E-03		6.20E-03	6.20E-03				1.5E-03		1.94E-02	0.00E+00					<b>1.9E-02</b>
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		3.54E-03	0.00E+00			1.22E-01	<b>1.2E-01</b>	
Polycyclic Organic Matter		3.30E-03							1.03E-02							<b>1.0E-02</b>
Xylene			1.09E-04	1.09E-04						3.41E-04	0.00E+00					<b>3.4E-04</b>
<b>Total HAPs</b>								<b>0.83</b>	<b>0.22</b>	<b>0.45</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>85.14</b>	<b>86.42</b>	

**Methodology**

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 MMCF/1,000 MMBtu]  
 Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.140 MMBtu]  
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.0905 MMBtu]  
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.0974 MMBtu]  
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \* [ton/2000 lbs]  
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [kgal/1000 gal] \* [ton/2000 lbs]  
 Sources of AP-42 Emission Factors for fuel combustion:  
 Natural Gas: AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4  
 No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-4, 1.3-9, 1.3-10, and 1.3-11  
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)  
 Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

**Abbreviations**

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

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

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

**Company Name: Rieth-Riley Construction Co., Inc.  
Source Address: 1751 West Minnesota Street, Indianapolis, IN 46221  
Permit Number: 097-27199-05319  
Reviewer: Brian Williams**

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

Maximum Hourly Asphalt Production = 400 ton/hr  
Maximum Annual Asphalt Production = 3,504,000 ton/yr

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	28	28	28	49056	49056	49056	49056
PM10*	6.5	6.5	6.5	11388	11388	11388	11388
PM2.5*	1.5	1.5	1.5	2628	2628	2628	2628
SO2**	0.0034	0.011	0.058	6.0	19.3	101.6	101.6
NOx**	0.026	0.055	0.055	45.6	96.4	96.4	96.4
VOC**	0.032	0.032	0.032	56.1	56.1	56.1	56.1
CO***	0.13	0.13	0.13	227.8	227.8	227.8	227.8
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04			3.68E-01	0.37
Antimony	1.80E-07	1.80E-07	1.80E-07	3.15E-04	3.15E-04	3.15E-04	3.15E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	9.81E-04	9.81E-04	9.81E-04	9.81E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	7.18E-04	7.18E-04	7.18E-04	7.18E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	9.64E-03	9.64E-03	9.64E-03	9.64E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	4.56E-05	4.56E-05	4.56E-05	4.56E-05
Lead	6.20E-07	1.50E-05	1.50E-05	1.09E-03	2.63E-02	2.63E-02	2.63E-02
Manganese	7.70E-06	7.70E-06	7.70E-06	1.35E-02	1.35E-02	1.35E-02	1.35E-02
Mercury	2.40E-07	2.60E-06	2.60E-06	4.20E-04	4.56E-03	4.56E-03	4.56E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	0.11	0.11	0.11	0.11
Selenium	3.50E-07	3.50E-07	3.50E-07	6.13E-04	6.13E-04	6.13E-04	6.13E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.07	0.07	0.07	0.07
Acetaldehyde			1.30E-03			2.28	2.28
Acrolein			2.60E-05			4.56E-02	4.56E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.68	0.68	0.68	0.68
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.42	0.42	0.42	0.42
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	5.43	5.43	5.43	5.43
Hexane	9.20E-04	9.20E-04	9.20E-04	1.61	1.61	1.61	1.61
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.08	0.08	0.08	0.08
MEK			2.00E-05			0.04	0.04
Propionaldehyde			1.30E-04			0.23	0.23
Quinone			1.60E-04			0.28	0.28
Toluene	1.50E-04	2.90E-03	2.90E-03	0.26	5.08	5.08	5.08
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.33	1.54	1.54	1.54
Xylene	2.00E-04	2.00E-04	2.00E-04	0.35	0.35	0.35	0.35

Total HAPs 18.68

Worst Single HAP 5.43 (formaldehyde)

**Methodology**  
Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)  
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-7, 11.1-8, 11.1-10, and 11.1-12  
Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

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

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

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

**Abbreviations**

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

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

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

	Emission Factor (lb/ton)**	Unlimited Potential to Emit (tons/yr)
Criteria Pollutant	Slag Processing	Slag Processing
SO2	0.74	544.5

**Methodology**

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

\*\* Testing results for 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 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%.

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: Emission Calculations**  
**Internal Combustion Engines - Diesel Fuel**  
**Generator (>600 HP) Unlimited Emissions**

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

Generator Maximum Hours of Operation =  hr/yr  
 Diesel Engine Oil Usage =  gal/yr

Heat Input Capacity Horsepower (hp)  hp-hr/yr  S=  = WEIGHT % SULFUR

	Pollutant					
	PM	PM10*	SO2	NOx**	VOC	CO
Emission Factor in lb/hp-hr or Emission Factor in lb/gal***	7.00E-04	4.01E-04	4.05E-03 (.00809S)	0.024 **see below	7.05E-04	5.50E-03
Potential Emission in tons/yr or Potential Emission in tons/yr	4.0	2.3	23.0	136.7	4.0	31.3
	4.0	2.3	23.0	136.7	4.0	31.3

**Hazardous Air Pollutants (HAPs)**

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs****
Emission Factor in lb/hp-hr*****	5.43E-06	1.97E-06	1.35E-06	5.52E-07	1.76E-07	5.52E-08	1.48E-06
Potential Emission in tons/yr	3.09E-02	1.12E-02	7.69E-03	3.14E-03	1.00E-03	3.14E-04	8.45E-03

\*\*\*\*PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)  
 \*\*\*\*\*Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

<b>Potential Emission of Total HAPs (tons/yr)</b>	<b>6.27E-02</b>
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**Methodology**

\* Emission factors are from AP-42 (Supplement B 10/96) Table 3.4-1.  
 Average heating value of diesel was assumed to be 19,300 Btu/lb, with a density of 7.1 lb/gal (AP42 (Supplement B 10/96), Table 3.4-1, Footnote a).  
 1 hp-hr = 7000 Btu, AP42 (Supplement B 10/96), Table 3.4-1, Footnote e.  
 \*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and an average conversion factor of (7,000 Btu / hp-hr). The PM2.5 emissions were assumed to be equal to PM10.  
 No information was given regarding which method was used to determine the PM emission factor or whether condensable PM is included.  
 \*\*NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr  
 \*\*\*Emission Factor in lb/gal = AP-42 emission factor (lb/hp-hr) \* 1/7000 (hp-hr/btu) \* 1/19300 (lb/btu) \* 1/7.1 (gal/lb)  
 Potential Throughput (hp-hr/yr) = hp \* 8760 hr/year  
 Potential Throughput (gal/yr) = 1300 (hp) \* 8760 (hr/yr) \* 7000 (Btu/hp-hr) \* 1/19300 (lb/Btu) \* 1/7.1 (gal/lb)  
 Potential Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)  
 or  
 Potential Emissions (tons/yr) = [Potential Throughput (gal/yr) x Emission Factor (lb/gal)] / (2,000 lb/ton)

**Appendix A.1: Emission Calculations  
Internal Combustion Engines - Diesel Fuel  
Generator (<600 HP) Unlimited Emissions**

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

Generator Maximum Hours of Operation = 8760 hr/yr  
 Diesel Engine Oil Usage = 42,831 gal/yr

Heat Input Capacity  
 Horsepower (hp) hp-hr/yr

95.7 838457.1

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.92	0.92	0.92	0.86	13.00	1.05	2.80
Emission Factor in lb/gal***	0.04	0.04	0.04	0.04	0.61	0.05	0.13
Potential Emission in tons/yr	0.92	0.92	0.92	0.86	13.00	1.05	2.80

\*PM 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****
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/hp-hr*****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	2.74E-03	1.20E-03	8.36E-04	1.15E-04	3.46E-03	2.25E-03	2.71E-04	4.93E-04

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

\*\*\*\*\*Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

<b>Potential Emission of Total HAPs (tons/yr)</b>	<b>1.14E-02</b>
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**Methodology**

Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2

\*\*\*Emission Factor in lb/gal = AP-42 emission factor (lb/hp-hr) \* 1/7000 (hp-hr/btu) \* 1/19300 (lb/btu) \* 1/7.1 (gal/lb)

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

Potential Throughput (gal/yr) = 95.7 (hp) \* 8760 (hr/yr) \* 7000 (Btu/hp-hr) \* 1/19300 (lb/Btu) \* 1/7.1 (gal/lb)

Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] \* [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

or

Potential Emissions (tons/yr) = [Potential Throughput (gal/yr) x Emission Factor (lb/gal)] / (2,000 lb/ton)

**Appendix A.1: Emissions Calculations**

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Location:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

Maximum Hot Oil Heater Fuel Input Rate = 1.15 MMBtu/hr  
 Natural Gas Usage = 0 MMCF/yr  
 No. 2 Fuel Oil Usage = 71,957 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	0.000	0.072	0.07
PM10/PM2.5	7.6	3.3	0.000	0.119	0.12
SO2	0.6	71.0	0.000	2.554	2.55
NOx	100	20.0	0.000	0.720	0.72
VOC	5.5	0.20	0.000	0.007	0.01
CO	84	5.0	0.000	0.180	0.18
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	5.6E-04	0.0E+00	2.01E-05	2.0E-05
Beryllium	1.2E-05	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Cadmium	1.1E-03	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Chromium	1.4E-03	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Cobalt	8.4E-05		0.0E+00		0.0E+00
Lead	5.0E-04	1.3E-03	0.0E+00	4.53E-05	4.5E-05
Manganese	3.8E-04	8.4E-04	0.0E+00	3.02E-05	3.0E-05
Mercury	2.6E-04	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Nickel	2.1E-03	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Selenium	2.4E-05	2.1E-03	0.0E+00	7.56E-05	7.6E-05
Benzene	2.1E-03		0.0E+00		0.0E+00
Dichlorobenzene	1.2E-03		0.0E+00		0.0E+00
Ethylbenzene					0.0E+00
Formaldehyde	7.5E-02	6.10E-02	0.0E+00	2.19E-03	2.2E-03
Hexane	1.8E+00		0.00		0.0E+00
Phenol					0.0E+00
Toluene	3.4E-03		0.0E+00		0.0E+00
Total PAH Haps	negl		negl		0.0E+00
Polycyclic Organic Matter		3.30E-03		1.19E-04	1.2E-04
<b>Total HAPs =</b>			<b>0.0E+00</b>	<b>2.6E-03</b>	<b>0.003</b>

**Methodology**

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 MMCF/1,000 MMBtu]  
 Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.140 MMBtu]  
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \* [ton/2000 lbs]  
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [kgal/1000 gal] \* [ton/2000 lbs]  
 Sources of AP-42 Emission Factors for fuel combustion:  
 Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4  
 No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

**Abbreviations**

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

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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 =	3,504,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.91	1.03	NA	1.94
Organic PM	3.4E-04	2.5E-04	NA	0.60	0.445	NA	1.04
TOC	0.004	0.012	0.001	7.29	21.35	1.927	30.6
CO	0.001	0.001	3.5E-04	2.36	2.067	0.617	5.05

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

<b>PM/HAPs</b>	<b>0.042</b>	<b>0.050</b>	<b>0</b>	<b>0.093</b>
<b>VOC/HAPs</b>	<b>0.108</b>	<b>0.272</b>	<b>0.028</b>	<b>0.408</b>
<b>non-VOC/HAPs</b>	<b>5.6E-04</b>	<b>5.8E-05</b>	<b>1.5E-04</b>	<b>7.7E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.53</b>	<b>0.30</b>	<b>0.14</b>	<b>0.97</b>

<b>Total VOCs</b>	<b>6.85</b>	<b>21.35</b>	<b>1.8</b>	<b>30.0</b>
<b>Total HAPs</b>	<b>0.15</b>	<b>0.32</b>	<b>0.029</b>	<b>0.50</b>
		<b>Worst Single HAP</b>		<b>0.155</b>
				<b>(formaldehyde)</b>

**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<sup>-(0.0251)(T+460)-20.43</sup>  
 Organic PM Ef = 0.00141(-V)e<sup>-(0.0251)(T+460)-20.43</sup>  
 TOC Ef = 0.0172(-V)e<sup>-(0.0251)(T+460)-20.43</sup>  
 CO Ef = 0.00558(-V)e<sup>-(0.0251)(T+460)-20.43</sup>  
 Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):  
 PM/PM10 Ef = 0.000332 + 0.00105(-V)e<sup>-(0.0251)(T+460)-20.43</sup>  
 Organic PM Ef = 0.00105(-V)e<sup>-(0.0251)(T+460)-20.43</sup>  
 TOC Ef = 0.0504(-V)e<sup>-(0.0251)(T+460)-20.43</sup>  
 CO Ef = 0.00488(-V)e<sup>-(0.0251)(T+460)-20.43</sup>  
 On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32  
 \*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

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

Company Name: Rieth-Riley Construction Co., Inc.  
 Source Address: 1751 West Minnesota Street, Indianapolis, IN 46221  
 Permit Number: 097-27199-05319  
 Reviewer: Brian Williams

**Organic Particulate-Based Compounds (Table 11.1-15)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
<b>PAH HAPs</b>										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	1.6E-03	2.1E-03	NA	3.6E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	1.7E-04	6.2E-05	NA	2.3E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	4.2E-04	5.8E-04	NA	1.0E-03
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	1.1E-04	2.5E-04	NA	3.6E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	4.5E-05	0	NA	4.5E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	1.3E-05	0	NA	1.3E-05
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	1.1E-05	0	NA	1.1E-05
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	1.4E-05	0	NA	1.4E-05
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	4.7E-05	4.2E-05	NA	8.9E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	6.2E-04	9.3E-04	NA	1.5E-03
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	2.2E-06	0	NA	2.2E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	3.0E-04		NA	3.0E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	4.6E-03	4.5E-03	NA	9.1E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	2.8E-06	0	NA	2.8E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	1.4E-02	2.3E-02	NA	0.038
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	7.5E-03	8.1E-03	NA	1.6E-02
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	1.3E-04	1.3E-04	NA	2.6E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	4.8E-03	8.0E-03	NA	1.3E-02
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	9.0E-04	2.0E-03	NA	2.9E-03
<b>Total PAH HAPs</b>							<b>0.035</b>	<b>0.050</b>	<b>NA</b>	<b>0.086</b>
<b>Other semi-volatile HAPs</b>										
Phenol		PM/HAP	---	Organic PM	1.18%	0	7.0E-03	0	0	7.0E-03

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

**Methodology**

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

**Abbreviations**

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

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

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

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	100%	<b>6.85</b>	<b>21.35</b>	<b>1.81</b>	<b>30.01</b>
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	4.7E-01	5.6E-02	1.3E-01	0.654
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	3.4E-03	1.2E-02	8.9E-04	0.016
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	5.2E-02	2.3E-01	1.4E-02	0.300
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>1.40%</b>	<b>0.532</b>	<b>0.299</b>	<b>0.141</b>	<b>0.97</b>
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	3.8E-03	6.8E-03	1.0E-03	1.2E-02
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	7.0E-04	1.0E-03	1.9E-04	1.9E-03
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	3.6E-03	8.3E-03	9.4E-04	1.3E-02
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	9.5E-04	3.4E-03	2.5E-04	4.6E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	1.5E-05	8.5E-04	4.0E-06	8.7E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	1.1E-03	4.9E-03	2.9E-04	6.3E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	8.0E-03	0	2.1E-03	1.0E-02
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	2.0E-02	8.1E-03	5.4E-03	0.034
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	6.4E-03	1.5E-01	1.7E-03	0.155
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	1.1E-02	2.1E-02	2.9E-03	0.035
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	1.3E-04	6.6E-05	3.5E-05	2.3E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	5.8E-05	0	5.8E-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%	5.3E-04	1.2E-03	1.4E-04	1.8E-03
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	5.6E-04	0	1.5E-04	7.1E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	1.5E-02	1.3E-02	4.0E-03	0.033
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	9.5E-05	0	2.5E-05	1.2E-04
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	3.0E-02	4.3E-02	7.9E-03	0.080
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	5.8E-03	1.2E-02	1.5E-03	2.0E-02
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>1.30%</b>	<b>0.109</b>	<b>0.278</b>	<b>0.029</b>	<b>0.416</b>

**Methodology**

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

**Abbreviations**

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

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.80	0.439	0.154
Limestone	1.6	1.85	1.30	0.439	0.154
RAP	0.5	0.58	1.40	0.148	0.052
Gravel	1.6	1.85	1.20	0.406	0.142
Slag	3.8	4.40	1.00	0.803	0.281
<b>Totals</b>				<b>2.23</b>	<b>0.78</b>

**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.

**Abbreviations**

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PM2.5 = PM10

PTE = Potential to Emit

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

**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  $\leq 100$   $\mu$ m)  
 $k$  (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter  $\leq 10$   $\mu$ m)  
 $k$  (PM2.5) = 0.053 = particle size multiplier (0.053 assumed for aerodynamic diameter  $\leq 2.5$   $\mu$ m)  
 $U$  = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006\*)  
 $M$  = 4.0 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)

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

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

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

**Methodology**

The percent asphalt cement/binder provided by the source.

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

Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)

Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives

\*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

**Material Screening and Conveying (AP-42 Section 11.19.2)**

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	8.99	3.99
Screening	0.025	0.0087	41.61	14.48
Conveying	0.003	0.0011	4.99	1.83
<b>Unlimited Potential to Emit (tons/yr) =</b>			<b>55.59</b>	<b>20.31</b>

**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  $\mu$ m)  
 PM2.5 = Particulate matter (< 2.5  $\mu$ m)  
 PTE = Potential to Emit

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

**Unpaved Roads at Industrial Site**

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

Maximum Annual Asphalt Production	=	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	=	5.0%	
Maximum Material Handling Throughput	=	3,328,800	tons/yr
Maximum Asphalt Cement/Binder Throughput	=	175,200	tons/yr
Maximum No. 2 Fuel Oil Usage	=	6,257,143	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	1.5E+05	5.9E+06	300	0.057	8443.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	300	0.057	8443.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	4.9E+03	2.3E+05	300	0.057	276.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	4.9E+03	5.8E+04	300	0.057	276.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	6.6E+02	2.9E+04	300	0.057	37.6
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	6.6E+02	7.9E+03	300	0.057	37.6
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	7.9E+05	1.5E+07	300	0.057	45032.5
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	7.9E+05	1.2E+07	300	0.057	45032.5
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.5E+05	6.0E+06	300	0.057	8295.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	300	0.057	8295.5
<b>Total</b>					<b>2.2E+06</b>	<b>4.4E+07</b>			<b>1.2E+05</b>

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

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

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f$	6.09	1.55	0.16	lb/mile
Mitigated Emission Factor, $E_{ext}$	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	25.73	6.56	0.66	16.92	4.31	0.43	8.46	2.16	0.22
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	25.73	6.56	0.66	16.92	4.31	0.43	8.46	2.16	0.22
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.843	0.215	0.02	0.554	0.141	0.01	0.277	0.071	0.01
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.843	0.215	0.02	0.554	0.141	0.01	0.277	0.071	0.01
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.114	0.029	0.00	0.075	0.019	0.00	0.038	0.010	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.114	0.029	0.00	0.075	0.019	0.00	0.038	0.010	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	137.23	34.98	3.50	90.23	23.00	2.30	45.12	11.50	1.15
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	137.23	34.98	3.50	90.23	23.00	2.30	45.12	11.50	1.15
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	25.28	6.44	0.64	16.62	4.24	0.42	8.31	2.12	0.21
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	25.28	6.44	0.64	16.62	4.24	0.42	8.31	2.12	0.21
<b>Totals</b>		<b>378.40</b>	<b>96.44</b>	<b>9.64</b>	<b>248.81</b>	<b>63.41</b>	<b>6.34</b>	<b>124.40</b>	<b>31.71</b>	<b>3.17</b>

**Methodology**

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

**Abbreviations**

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

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

**Paved Roads at Industrial Site**

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

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,328,800	tons/yr
Maximum Asphalt Cement/Binder Throughput =	175,200	tons/yr
Maximum No. 2 Fuel Oil Usage =	6,257,143	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	1.5E+05	5.9E+06	300	0.057	8443.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	300	0.057	8443.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	4.9E+03	2.3E+05	300	0.057	276.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	4.9E+03	5.8E+04	300	0.057	276.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	6.6E+02	2.9E+04	300	0.057	37.6
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	6.6E+02	7.9E+03	300	0.057	37.6
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	7.9E+05	1.5E+07	300	0.057	45032.5
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	7.9E+05	1.2E+07	300	0.057	45032.5
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	1.5E+05	6.0E+06	300	0.057	8295.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	300	0.057	8295.5
<b>Total</b>					<b>2.2E+06</b>	<b>4.4E+07</b>			<b>1.2E+05</b>

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

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

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

lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)  
 tons = average vehicle weight (provided by source)  
 lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)  
 g/m<sup>2</sup> = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E \* [1 - (p/4N)]

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

	PM	PM10	PM2.5
Unmitigated Emission Factor, Ef =	0.66	0.13	0.02
Mitigated Emission Factor, Eext =	0.60	0.12	0.02
Dust Control Efficiency =	50%	50%	50%

lb/mile  
 lb/mile  
 (pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	2.78	0.54	0.08	2.54	0.49	0.07	1.27	0.25	0.04
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	2.78	0.54	0.08	2.54	0.49	0.07	1.27	0.25	0.04
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.091	0.018	2.6E-03	0.083	0.016	2.4E-03	0.042	8.1E-03	1.2E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.091	0.018	2.6E-03	0.083	0.016	2.4E-03	0.042	8.1E-03	1.2E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.2E-02	2.4E-03	3.5E-04	1.1E-02	2.2E-03	3.2E-04	5.6E-03	1.1E-03	1.6E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.2E-02	2.4E-03	3.5E-04	1.1E-02	2.2E-03	3.2E-04	5.6E-03	1.1E-03	1.6E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	14.81	2.88	0.43	13.54	2.63	0.39	6.77	1.32	0.19
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	14.81	2.88	0.43	13.54	2.63	0.39	6.77	1.32	0.19
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	2.73	0.53	0.08	2.49	0.49	0.07	1.25	0.24	0.04
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	2.73	0.53	0.08	2.49	0.49	0.07	1.25	0.24	0.04
<b>Totals</b>		<b>40.83</b>	<b>7.94</b>	<b>1.17</b>	<b>37.34</b>	<b>7.26</b>	<b>1.07</b>	<b>18.67</b>	<b>3.63</b>	<b>0.54</b>

**Methodology**

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

**Abbreviations**

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

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

Maximum Annual Asphalt Production = 3,504,000 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Asphalt Cement/Binder Throughput = 175,200 tons/yr

**Volatile Organic Compounds**

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

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
<b>PTE of Total HAPs (tons/yr) =</b>	<b>10983.67</b>
<b>PTE of Single HAP (tons/yr) =</b>	<b>3789.84 Xylenes</b>

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

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

**Methodology**

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

**Abbreviations**

VOC = Volatile Organic Compounds  
 PTE = Potential to Emit

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

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

**Volatile Organic Compounds**

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

**Hazardous Air Pollutants**

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

**Methodology**

The gasoline throughput was provided by the source.

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

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

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

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

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

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

**Asphalt Plant Limitations**

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	1,000,000	ton/yr
Slag Content Limitation =	1.50	% sulfur
No. 2 Fuel Oil Content Limitation =	0.50	% sulfur
No. 4 Fuel Oil Content Limitation =	0.50	% sulfur
Residual (No. 5 or No. 6) Fuel Oil Content Limitation =	0.00	% sulfur
Used/Waste Oil Content Limitations =	1.00	% sulfur
Diesel Engine Oil (Generator > 600) Content Limitation =	0.50	% sulfur
	1.02	% ash
	0.400	% chlorine
	0.010	% lead
PM Dryer/Mixer Limitation =	0.375	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.157	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.176	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production
Slag SO2 Dryer/Mixer Limitation =	0.740	lb/ton of slag processed
Cold Mix Asphalt VOC Usage Limitation =	48.22	tons/yr
HCl Limitation =	0.0264	lb/gal

**Limited/Controlled Emissions**

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants						Hazardous Air Pollutants			
	PM	PM10	PM2.5	SO2 <sup>2</sup>	NOx <sup>2</sup>	VOC	CO	Total HAPs	Worst Case HAP	
<b>Ducted Emissions</b>										
Dryer Fuel Combustion (worst case)	24.48	19.51	19.51	99.0	99.0	4.95	37.77	11.22	9.90	(hydrogen chloride)
Dryer/Mixer (Process) <sup>1</sup>	187.72	78.59	88.04			16.00	65.00	5.33	1.55	(formaldehyde)
Dryer/Mixer Slag Processing	0	0	0			0	0	0	0	
Generator > 600	2.89	1.65	1.65			2.91	22.69	4.54E-02	2.24E-02	(benzene)
Generator < 600	0.92	0.92	0.92			1.05	2.80	1.14E-02	3.46E-03	(formaldehyde)
Hot Oil Heater Fuel Combustion (worst case)	0.07	0.12	0.12	0.01	0.18	0.003	0.002	(formaldehyde)		
<b>Worst Case Emissions<sup>3,4</sup></b>	<b>191.60</b>	<b>81.29</b>	<b>90.73</b>	<b>99.00</b>	<b>99.00</b>	<b>19.97</b>	<b>90.67</b>	<b>11.28</b>	<b>9.90</b>	(hydrogen chloride)
<b>Fugitive Emissions</b>										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.55	0.55	0.55	0	0	8.57	1.44	0.14	0.04	(formaldehyde)
Material Storage Piles	2.23	0.78	0.78	0	0	0	0	0	0	
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	35.52	9.05	0.91	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	48.22	0	12.58	4.34	(xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	negl	negl	
<b>Total Fugitive Emissions</b>	<b>57.40</b>	<b>17.71</b>	<b>8.27</b>	<b>0</b>	<b>0</b>	<b>56.79</b>	<b>1.44</b>	<b>12.72</b>	<b>4.34</b>	(xylenes)
<b>Totals Limited/Controlled Emissions</b>	<b>249.00</b>	<b>99.00</b>	<b>99.00</b>	<b>99.00</b>	<b>99.00</b>	<b>76.76</b>	<b>92.11</b>	<b>24.00</b>	<b>9.90</b>	(hydrogen chloride)

negl = negligible

Fuel component percentages provided by the source.

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

<sup>1</sup> Based on the unlimited and limited potential to emit, the dryer/mixer process represents the worst case emissions of PM, PM10, PM2.5, VOC, and CO. Therefore, the source has elected to limit PM, PM10, PM2.5, VOC, and CO emissions to less than Title V and PSD applicability by accepting an asphalt production limit and a lb/ton emission limit (see TSD for more detail).

<sup>2</sup> The source will limit the combined SO2 emissions from the dryer mixer burner, generators, hot oil heater, and slag processing and the combined NOx emissions from the dryer mixer burner, generators, and hot oil heater such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each. In addition, the source will limit the HCl emissions from the combustion of waste oil such that they do not exceed 9.9 tons per year. Compliance with these limits will be demonstrated using equations.

<sup>3</sup> Worst Case PM, PM10, PM2.5, VOC, CO, and Total HAPs Emissions (tons/yr) = Worst Case Emissions from Dryer/Mixer + Emissions from Generator > 600 + Emissions from Generator < 600 + Hot Oil Heater.

<sup>4</sup> Worst Case Single HAP Emissions (tons/yr) = Worst Case HAP Emission from Dryer/Mixer, Generator > 600, Generator < 600, or Hot Oil Heater.

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

Company Name: **Rieth-Riley Construction Co., Inc.**  
 Source Address: **1751 West Minnesota Street, Indianapolis, IN 46221**  
 Permit Number: **097-27199-05319**  
 Reviewer: **Brian Williams**

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

**Production Limitations and Fuel Usage**

Maximum Hourly Asphalt Production	400	ton/hr
Annual Asphalt Production Limitation	1,000,000	ton/yr
Natural Gas Usage	876	MMCF/yr
No. 2 Fuel Oil Usage	2,788,732	gal/yr, and
No. 4 Fuel Oil Usage	2,640,000	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage	0	gal/yr, and
Propane Usage	9,679,558	gal/yr, and
Butane Usage	8,993,840	gal/yr, and
Used/Waste Oil Usage	750,000	gal/yr, and

  

	0.50	% sulfur
	0.50	% sulfur
	0.00	% sulfur
	0.20	gr/100 ft3 sulfur
	0.22	gr/100 ft3 sulfur
	1.00	% sulfur
	1.02	% ash
	0.400	% chlorine
	0.010	% lead

**Limited Emissions**

Criteria Pollutant	Emission Factor (units)							Limited 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 <sup>2.5</sup>	1.9	2	7	3.22	0.5	0.6	65.28	0.83	2.79	9.24	0.00	2.420	2.698	24.48	<b>24.48</b>
PM10 <sup>2.5</sup>	7.6	3.3	8.3	4.72	0.5	0.6	52.02	3.33	4.60	10.96	0.00	2.420	2.698	19.51	<b>19.51</b>
SO <sub>2</sub> <sup>2</sup>	0.6	71.0	75.0	0.0	0.020	0.020	147.0	0.26	99.00	99.00	0.00	0.097	0.089	55.13	<b>99.00</b>
NO <sub>x</sub> <sup>3</sup>	190	24.0	47.0	47.0	13.0	15.0	19.0	83.22	33.46	62.04	0.00	62.92	67.45	7.13	<b>83.22</b>
VOC <sup>4</sup>	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.41	0.28	0.26	0.00	4.84	4.95	0.38	<b>4.95</b>
CO <sup>5</sup>	84	5.0	5.0	5.0	7.5	8.4	5.0	36.79	6.97	6.60	0.00	36.30	37.77	1.88	<b>37.77</b>
<b>Hazardous Air Pollutant</b>															
HCF							26.4							9.90	<b>9.90</b>
Antimony			5.25E-03	5.25E-03			negl			6.93E-03	0.00E+00			negl	<b>6.9E-03</b>
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	8.8E-05	7.81E-04	1.74E-03	0.00E+00			4.13E-02	<b>4.1E-02</b>
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	5.3E-06	5.86E-04	3.67E-05	0.00E+00			negl	<b>5.9E-04</b>
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	4.8E-04	5.86E-04	5.25E-04	0.00E+00			3.49E-03	<b>3.5E-03</b>
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	6.1E-04	5.86E-04	1.12E-03	0.00E+00			7.50E-03	<b>7.5E-03</b>
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	3.7E-05	7.95E-03	0.00E+00			7.88E-05	7.9E-03	<b>7.9E-03</b>
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.2E-04	1.76E-03	1.99E-03	0.00E+00			2.06E-01	<b>0.21</b>
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.7E-04	1.17E-03	3.96E-03	0.00E+00			2.55E-02	<b>0.03</b>
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04			negl	1.1E-04	5.86E-04	1.49E-04	0.00E+00			negl	<b>5.9E-04</b>
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	9.2E-04	5.86E-04	1.12E-01	0.00E+00			4.13E-03	<b>0.112</b>
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.1E-05	2.93E-03	9.02E-04	0.00E+00			negl	<b>2.9E-03</b>
1,1,1-Trichloroethane			2.36E-04	2.36E-04						3.12E-04	0.00E+00				<b>3.1E-04</b>
1,3-Butadiene															<b>0.0E+00</b>
Acetaldehyde															<b>0.0E+00</b>
Acrolein															<b>0.0E+00</b>
Benzene	2.1E-03		2.14E-04	2.14E-04				9.2E-04		2.82E-04	0.00E+00				<b>9.2E-04</b>
Bis(2-ethylhexyl)phthalate							2.2E-03							8.25E-04	<b>8.3E-04</b>
Dichlorobenzene	1.2E-03						8.0E-07	5.3E-04						3.00E-07	<b>5.3E-04</b>
Ethylbenzene			6.36E-05	6.36E-05						8.40E-05	0.00E+00				<b>8.4E-05</b>
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02						3.3E-02	8.51E-02	4.36E-02	0.00E+00		<b>0.085</b>
Hexane	1.8E+00							0.79							<b>0.788</b>
Phenol							2.4E-03							9.00E-04	<b>9.0E-04</b>
Toluene	3.4E-03		6.20E-03	6.20E-03				1.5E-03		8.18E-03	0.00E+00				<b>8.2E-03</b>
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02			1.49E-03	0.00E+00			1.47E-02	<b>1.5E-02</b>
Polycyclic Organic Matter		3.30E-03								4.60E-03					<b>4.6E-03</b>
Xylene			1.09E-04	1.09E-04						1.44E-04	0.00E+00				<b>1.4E-04</b>
<b>Total HAPs</b>								<b>0.83</b>	<b>0.10</b>	<b>0.19</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>10.20</b>	<b>11.22</b>

**Methodology**

- The natural gas, propane, and butane fuel usage rates were determined using the maximum fuel input rate for the dryer (see Appendix A.1 for more details).
  - Based on the unlimited potential to emit, the dryer/mixer process (page 3 of Appendix A.1) represents the worst case emissions of PM, PM10, PM2.5, VOC, and CO. Therefore, the source has elected to limit PM, PM10, PM2.5, VOC, and CO emissions to less than TI and PSD applicability by accepting an asphalt production limit and a lb/ton emission limit (see page 3 of Appendix A.2 for more detail).
  - The source will limit the combined SO<sub>2</sub> emissions from the dryer mixer burner, generators, hot oil heater, and slag processing and the combined NO<sub>x</sub> emissions from the dryer mixer burner, generators, and hot oil heater such that the SO<sub>2</sub> and NO<sub>x</sub> emissions do not net 99.0 tons per year, each. Compliance with these limits will be demonstrated using equations.
  - SO<sub>2</sub> emissions from the dryer/mixer shall not exceed 99.0 tons per year. This would be equivalent to combusting 2,788,732 gallons of No. 2 Fuel Oil or 2,640,000 gallons of No. 4 Fuel Oil if the source only used No. 2 or No. 4 fuel oil.
  - Hydrogen Chloride emissions from waste oil combustion shall not exceed 9.90 tons per year. This would be equivalent to combusting 750,000 gallons of waste oil per year with a chlorine content of 0.4%. Compliance with this limit will be demonstrated using an equation.
- Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Usage (MMCF/yr)) \* (Emission Factor (lb/MMCF)) \* (ton/2000 lbs)  
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Usage (gals/yr)) \* (Emission Factor (lb/kgal)) \* (kgal/1000 gal) \* (ton/2000 lbs)  
 Sources of AP-42 Emission Factors for fuel combustion:  
 Natural Gas: AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4  
 No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11  
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)  
 Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5
- \*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

**Abbreviations**

- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- SO<sub>2</sub> = Sulfur Dioxide
- NO<sub>x</sub> = Nitrous Oxides
- VOC = Volatile Organic Compounds
- CO = Carbon Monoxide
- HAP = Hazardous Air Pollutant
- HCl = Hydrogen Chloride
- PAH = Polyaromatic Hydrocarbon

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	1,000,000	ton/yr
PM Dryer/Mixer Limitation =	0.375	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.157	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.176	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	0.375	0.375	0.375	187.7	187.7	187.7	187.7
PM10*	0.157	0.157	0.157	78.6	78.6	78.6	78.6
PM2.5*	0.176	0.176	0.176	88.0	88.0	88.0	88.0
SO2**	0.003	0.011	0.058	1.7	5.5	29.0	29.0
NOx**	0.026	0.055	0.055	13.0	27.5	27.5	27.5
VOC**	0.032	0.032	0.032	16.0	16.0	16.0	16.0
CO***	0.130	0.130	0.130	65.0	65.0	65.0	65.0
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04			0.11	0.11
Antimony	1.80E-07	1.80E-07	1.80E-07	9.00E-05	9.00E-05	9.00E-05	9.00E-05
Arsenic	5.60E-07	5.60E-07	5.60E-07	2.80E-04	2.80E-04	2.80E-04	2.80E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.05E-04	2.05E-04	2.05E-04	2.05E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	2.75E-03	2.75E-03	2.75E-03	2.75E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.30E-05	1.30E-05	1.30E-05	1.30E-05
Lead	6.20E-07	1.50E-05	1.50E-05	3.10E-04	7.50E-03	7.50E-03	7.50E-03
Manganese	7.70E-06	7.70E-06	7.70E-06	3.85E-03	3.85E-03	3.85E-03	3.85E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	1.20E-04	1.30E-03	1.30E-03	1.30E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	3.15E-02	3.15E-02	3.15E-02	3.15E-02
Selenium	3.50E-07	3.50E-07	3.50E-07	1.75E-04	1.75E-04	1.75E-04	1.75E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	2.00E-02	2.00E-02	2.00E-02	2.00E-02
Acetaldehyde			1.30E-03			0.65	0.65
Acrolein			2.60E-05			1.30E-02	1.30E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.20	0.20	0.20	0.20
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.12	0.12	0.12	0.12
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	1.55	1.55	1.55	1.55
Hexane	9.20E-04	9.20E-04	9.20E-04	0.46	0.46	0.46	0.46
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.02	0.02	0.02	0.02
MEK			2.00E-05			0.01	0.01
Propionaldehyde			1.30E-04			0.07	0.07
Quinone			1.60E-04			0.08	0.08
Toluene	1.50E-04	2.90E-03	2.90E-03	0.08	1.45	1.45	1.45
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.10	0.44	0.44	0.44
Xylene	2.00E-04	2.00E-04	2.00E-04	0.10	0.10	0.10	0.10
				<b>Total HAPs</b>			<b>5.33</b>
				<b>Worst Single HAP</b>			<b>1.55 (formaldehyde)</b>

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

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-4, 11.1-7, 11.1-8, 11.1-10, and 11.1-12

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

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

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

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

\*\*\*\* The source will limit the combined SO2 emissions from the dryer mixer burner, generators, hot oil heater, and slag processing and the combined NOx emissions from the dryer mixer burner, generators, and hot oil heater such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each. Compliance with these limits will be demonstrated using equations.

**Abbreviations**

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

HAP = Hazardous Air Pollutant  
 PAH = Polyaromatic Hydrocarbon

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

Slag Usage Limitation = 

see note**
------------

 ton/yr  
 SO2 Slag Limitation = 

0.740
-------

 lb/ton of slag processed      

1.50
------

 % sulfur

	Emission Factor or Limitation (lb/ton)*	Limited Potential to Emit (tons/yr)
Criteria Pollutant	Slag Processing	Slag Processing
SO2	0.740	see note**

**Methodology**

\* Testing results for 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 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%. When the 30 day calendar month average sulfur content is less than or equal to 1.11% by weight, an emission factor of 0.5413 lb of SO2 per ton of slag will be used. When the 30 day calendar month average sulfur content is greater than 1.11% and less than or equal to 1.5% by weight, an emission factor of 0.74 lb of SO2 per ton of slag will be used.

\*\* The source will limit the combined SO2 emissions from the dryer mixer burner, generators, hot oil heater, and slag processing such that the SO2 emissions do not exceed 99.0 tons per year. Compliance with this limit will be demonstrated using an equation.

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

**Abbreviations**

SO2 = Sulfur Dioxide

**Appendix A.2: Emission Calculations**  
**Internal Combustion Engines - Diesel Fuel**  
**Generator (>600 HP) Limited Emissions**

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

Generator Maximum Hours of Operation<sup>8</sup> =  hr/yr  
 Diesel Engine Oil Limitation<sup>8</sup> =  gal/yr

Heat Input Capacity  
 Horsepower (hp) hp-hr/yr S=  = WEIGHT % SULFUR

	Pollutant					
	PM	PM10 <sup>2</sup>	SO <sub>2</sub> <sup>4</sup>	NO <sub>x</sub> <sup>3,4</sup>	VOC	CO
Emission Factor in lb/hp-hr <sup>1</sup> or	7.00E-04	4.01E-04	4.05E-03 (.00809S)	0.024	7.05E-04	5.50E-03
Emission Factor in lb/gal <sup>5</sup>	1.37E-02	7.85E-03	0.0792	0.47	0.01	0.11
Potential Emission in tons/yr or	2.89	1.65	16.69	99.00	2.91	22.69
Potential Emission in tons/yr	2.89	1.65	16.69	99.00	2.91	22.69

<sup>1</sup>Emission factors are from AP-42 (Supplement B 10/96) Table 3.4-1.

<sup>2</sup>PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and an average conversion factor of (7,000 Btu / hp-hr). The PM2.5 emissions were assumed to be equal to PM10

<sup>3</sup>NO<sub>x</sub> emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

<sup>4</sup>The source will limit the combined SO<sub>2</sub> emissions from the dryer mixer burner, generators, hot oil heater, and slag processing and the combined NO<sub>x</sub> emissions from the dryer mixer burner, generators, and hot oil heater such that the SO<sub>2</sub> and NO<sub>x</sub> emissions do not exceed 99.0 tons per year, each.

**Hazardous Air Pollutants (HAPs)**

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs <sup>6</sup>
Emission Factor in lb/hp-hr <sup>7</sup>	5.43E-06	1.97E-06	1.35E-06	5.52E-07	1.76E-07	5.52E-08	1.48E-06
Potential Emission in tons/yr	2.24E-02	8.11E-03	5.57E-03	2.28E-03	7.28E-04	2.28E-04	6.12E-03

<sup>6</sup>PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

<sup>7</sup>Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

<b>Potential Emission of Total HAPs (tons/yr)</b>	<b>4.54E-02</b>
---	-----------------

**Methodology**

Average heating value of diesel was assumed to be 19,300 Btu/lb, with a density of 7.1 lb/gal (AP42 (Supplement B 10/96), Table 3.4-1, Footnote a).  
 1 hp-hr = 7000 Btu, AP42 (Supplement B 10/96), Table 3.4-1, Footnote e.

No information was given regarding which method was used to determine the PM emission factor or whether condensable PM is included.  
 The PM10 emission factor is filterable and condensable PM10 combined.

<sup>5</sup>Emission Factor in lb/gal = AP-42 emission factor (lb/hp-hr) \* 1/7000 (hp-hr/btu) \* 1/19300 (lb/btu) \* 1/7.1 (gal/lb)  
 Potential Throughput (hp-hr/yr) = hp \* 8760 hr/year

Potential Throughput (gal/yr) = 1300 (hp) \* 8760 (hr/yr) \* 7000 (Btu/hp-hr) \* 1/19300 (lb/Btu) \* 1/7.1 (gal/lb)  
 Potential Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

or  
 Potential Emissions (tons/yr) = [Potential Throughput (gal/yr) x Emission Factor (lb/gal)] / (2,000 lb/ton)



**Appendix A.2: Emissions Calculations**

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Location:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

Maximum Hot Oil Heater Fuel Input Rate = 1.15 MMBtu/hr  
 Natural Gas Usage = 0 MMCF/yr  
 No. 2 Fuel Oil Usage = 71,957 gal/yr, and 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	0.000	0.072	0.07
PM10/PM2.5	7.6	3.3	0.000	0.119	0.12
SO2*	0.6	71.0	0.000	2.554	2.55
NOx*	100	20.0	0.000	0.720	0.72
VOC	5.5	0.20	0.000	0.007	0.01
CO	84	5.0	0.000	0.180	0.18
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	5.6E-04	0.0E+00	2.01E-05	2.0E-05
Beryllium	1.2E-05	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Cadmium	1.1E-03	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Chromium	1.4E-03	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Cobalt	8.4E-05		0.0E+00		0.0E+00
Lead	5.0E-04	1.3E-03	0.0E+00	4.53E-05	4.5E-05
Manganese	3.8E-04	8.4E-04	0.0E+00	3.02E-05	3.0E-05
Mercury	2.6E-04	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Nickel	2.1E-03	4.2E-04	0.0E+00	1.51E-05	1.5E-05
Selenium	2.4E-05	2.1E-03	0.0E+00	7.56E-05	7.6E-05
Benzene	2.1E-03		0.0E+00		0.0E+00
Dichlorobenzene	1.2E-03		0.0E+00		0.0E+00
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	0.0E+00	2.19E-03	0.002
Hexane	1.8E+00		0.00		0.000
Phenol					0
Toluene	3.4E-03		0.0E+00		0.0E+00
Total PAH Haps	negl				0
Polycyclic Organic Matter		3.30E-03		1.19E-04	1.2E-04
<b>Total HAPs =</b>			<b>0.0E+00</b>	<b>2.6E-03</b>	<b>0.003</b>

**Methodology**

\*The source will limit the combined SO2 emissions from the dryer mixer burner, generators, hot oil heater, and slag processing and the combined NOx emissions from the dryer mixer burner, generators, and hot oil heater such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each.

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

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

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

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

Sources of AP-42 Emission Factors for fuel combustion:

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

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

**Abbreviations**

PM = Particulate Matter  
 PM10 = Particulate Matter (<10 um)  
 SO2 = Sulfur Dioxide  
 NOx = Nitrous Oxides  
 VOC - Volatile Organic Compounds

CO = Carbon Monoxide  
 HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride  
 PAH = Polyaromatic Hydrocarbon

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	1,000,000	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	0.26	0.29	NA	0.55
Organic PM	3.4E-04	2.5E-04	NA	0.17	0.127	NA	0.30
TOC	0.004	0.012	0.001	2.08	6.09	0.550	8.7
CO	0.001	0.001	3.5E-04	0.67	0.590	0.176	1.44

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

<b>PM/HAPs</b>	<b>0.012</b>	<b>0.014</b>	<b>0</b>	<b>0.027</b>
<b>VOC/HAPs</b>	<b>0.031</b>	<b>0.077</b>	<b>0.008</b>	<b>0.116</b>
<b>non-VOC/HAPs</b>	<b>1.6E-04</b>	<b>1.6E-05</b>	<b>4.2E-05</b>	<b>2.2E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.15</b>	<b>0.09</b>	<b>0.04</b>	<b>0.28</b>

<b>Total VOCs</b>	<b>1.95</b>	<b>6.09</b>	<b>0.5</b>	<b>8.6</b>
<b>Total HAPs</b>	<b>0.04</b>	<b>0.09</b>	<b>0.008</b>	<b>0.14</b>
		<b>Worst Single HAP</b>		<b>0.044</b>
				<b>(formaldehyde)</b>

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

Company Name: Rieth-Riley Construction Co., Inc.  
 Source Address: 1751 West Minnesota Street, Indianapolis, IN 46221  
 Permit Number: 097-27199-05319  
 Reviewer: Brian Williams

**Organic Particulate-Based Compounds (Table 11.1-15)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
<b>PAH HAPs</b>										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	4.4E-04	6.0E-04	NA	1.0E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	4.8E-05	1.8E-05	NA	6.6E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.2E-04	1.7E-04	NA	2.8E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	3.2E-05	7.1E-05	NA	1.0E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.3E-05	0	NA	1.3E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	3.8E-06	0	NA	3.8E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	3.2E-06	0	NA	3.2E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	3.9E-06	0	NA	3.9E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.3E-05	1.2E-05	NA	2.5E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	1.8E-04	2.7E-04	NA	4.4E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	6.3E-07	0	NA	6.3E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	8.5E-05	1.9E-04	NA	2.8E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.3E-03	1.3E-03	NA	2.6E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	8.0E-07	0	NA	8.0E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	4.1E-03	6.7E-03	NA	0.011
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	2.1E-03	2.3E-03	NA	4.4E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	3.8E-05	3.8E-05	NA	7.6E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.4E-03	2.3E-03	NA	3.7E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	2.6E-04	5.6E-04	NA	8.1E-04
<b>Total PAH HAPs</b>							<b>0.010</b>	<b>0.014</b>	<b>NA</b>	<b>0.025</b>
<b>Other semi-volatile HAPs</b>										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.0E-03	0	0	2.0E-03

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

**Methodology**

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

**Abbreviations**

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

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

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

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	100%	<b>1.95</b>	<b>6.09</b>	<b>0.52</b>	<b>8.57</b>
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.4E-01	1.6E-02	3.6E-02	0.187
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	9.6E-04	3.4E-03	2.5E-04	0.005
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.5E-02	6.7E-02	3.9E-03	0.086
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>1.40%</b>	<b>0.152</b>	<b>0.085</b>	<b>0.040</b>	<b>0.28</b>
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.1E-03	1.9E-03	2.9E-04	3.3E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.0E-04	3.0E-04	5.3E-05	5.5E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.0E-03	2.4E-03	2.7E-04	3.7E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	2.7E-04	9.7E-04	7.2E-05	1.3E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	4.4E-06	2.4E-04	1.2E-06	2.5E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	3.1E-04	1.4E-03	8.3E-05	1.8E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	2.3E-03	0	6.1E-04	2.9E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	5.8E-03	2.3E-03	1.5E-03	0.010
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	1.8E-03	4.2E-02	4.8E-04	0.044
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	3.1E-03	6.1E-03	8.3E-04	0.010
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	3.7E-05	1.9E-05	9.9E-06	6.6E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	1.6E-05	0	1.6E-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%	1.5E-04	3.3E-04	4.0E-05	5.2E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	1.6E-04	0	4.2E-05	2.0E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	4.4E-03	3.8E-03	1.2E-03	0.009
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	2.7E-05	0	7.2E-06	3.4E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	8.5E-03	1.2E-02	2.3E-03	0.023
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	1.7E-03	3.5E-03	4.4E-04	5.6E-03
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>1.30%</b>	<b>0.031</b>	<b>0.079</b>	<b>0.008</b>	<b>0.119</b>

**Methodology**

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

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

**Abbreviations**

TOC = Total Organic Compounds

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

MTBE = Methyl tert butyl ether

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.80	0.439	0.154
Limestone	1.6	1.85	1.30	0.439	0.154
RAP	0.5	0.58	1.40	0.148	0.052
Gravel	1.6	1.85	1.20	0.406	0.142
Slag	3.8	4.40	1.00	0.803	0.281
<b>Totals</b>				<b>2.23</b>	<b>0.78</b>

**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.

**Abbreviations**

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PM2.5 = PM10

PTE = Potential to Emit

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

**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.

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

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

$k$  (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)  
 $k$  (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)  
 $k$  (PM2.5) = 0.053 = particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)  
 $U$  = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006\*)  
 $M$  = 4.0 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)

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

Annual Asphalt Production Limitation = 1,000,000 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Material Handling Throughput = 950,000 tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	1.08	0.51	0.08
Front-end loader dumping of materials into feeder bins	1.08	0.51	0.08
Conveyor dropping material into dryer/mixer or batch tower	1.08	0.51	0.08
<b>Total (tons/yr)</b>	<b>3.23</b>	<b>1.53</b>	<b>0.23</b>

**Methodology**

The percent asphalt cement/binder provided by the source.

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

Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) \* (Emission Factor (lb/ton)) \* (ton/2000 lbs)

Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives

\*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

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

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	2.57	1.14
Screening	0.025	0.0087	11.88	4.13
Conveying	0.003	0.0011	1.43	0.52
<b>Limited Potential to Emit (tons/yr) =</b>			<b>15.87</b>	<b>5.80</b>

**Methodology**

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

Limited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] \* [Emission Factor (lb/ton)] \* [ton/2000 lbs]

Raw materials may include 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: Emissions Calculations  
Unpaved Roads  
Limited Emissions**

**Company Name: Rieth-Riley Construction Co., Inc.  
Source Address: 1751 West Minnesota Street, Indianapolis, IN 46221  
Permit Number: 097-27199-05319  
Reviewer: Brian Williams**

**Unpaved Roads at Industrial Site**

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

Annual Asphalt Production Limitation	1,000,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	950,000	tons/yr
Maximum Asphalt Cement/Binder Throughput	50,000	tons/yr
No. 2 Fuel Oil Limitation	2,788,732	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	4.2E+04	1.7E+06	300	0.057	2409.7
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.2E+05	300	0.057	2409.7
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.4E+03	6.7E+04	300	0.057	78.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.4E+03	1.7E+04	300	0.057	78.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.9E+02	1.3E+04	300	0.057	16.7
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.9E+02	3.5E+03	300	0.057	16.7
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	2.3E+05	4.3E+06	300	0.057	12851.7
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	2.3E+05	3.4E+06	300	0.057	12851.7
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	4.2E+04	1.7E+06	300	0.057	2367.4
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.1E+05	300	0.057	2367.4
<b>Total</b>					<b>6.2E+05</b>	<b>1.3E+07</b>			<b>3.5E+04</b>

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

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

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E_f \cdot [(365 - P)/365]$

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f$	6.10	1.55	0.16	lb/mile
Mitigated Emission Factor, $E_{ext}$	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	7.34	1.87	0.19	4.83	1.23	0.12	2.41	0.62	0.06
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	7.34	1.87	0.19	4.83	1.23	0.12	2.41	0.62	0.06
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.240	0.061	0.01	0.158	0.040	4.0E-03	0.079	0.020	2.0E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.240	0.061	0.01	0.158	0.040	4.0E-03	0.079	0.020	2.0E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.051	0.013	1.3E-03	0.034	0.009	8.5E-04	0.017	0.004	4.3E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.051	0.013	1.3E-03	0.034	0.009	8.5E-04	0.017	0.004	4.3E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	39.17	9.98	1.00	25.75	6.56	0.66	12.88	3.28	0.33
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	39.17	9.98	1.00	25.75	6.56	0.66	12.88	3.28	0.33
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	7.21	1.84	0.18	4.74	1.21	0.12	2.37	0.60	0.06
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	7.21	1.84	0.18	4.74	1.21	0.12	2.37	0.60	0.06
<b>Totals</b>		<b>108.03</b>	<b>27.53</b>	<b>2.75</b>	<b>71.04</b>	<b>18.10</b>	<b>1.81</b>	<b>35.52</b>	<b>9.05</b>	<b>0.91</b>

**Methodology**

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

**Abbreviations**

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

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

**Company Name: Rieth-Riley Construction Co., Inc.**  
**Source Address: 1751 West Minnesota Street, Indianapolis, IN 46221**  
**Permit Number: 097-27199-05319**  
**Reviewer: Brian Williams**

**Paved Roads at Industrial Site**

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

Annual Asphalt Production Limitation	1,000,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	950,000	tons/yr
Maximum Asphalt Cement/Binder Throughput	50,000	tons/yr
No. 2 Fuel Oil Limitation	2,788,732	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	4.2E+04	1.7E+06	300	0.057	2409.7
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.2E+05	300	0.057	2409.7
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.4E+03	6.7E+04	300	0.057	78.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.4E+03	1.7E+04	300	0.057	78.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.9E+02	1.3E+04	300	0.057	16.7
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.9E+02	3.5E+03	300	0.057	16.7
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	2.3E+05	4.3E+06	300	0.057	12851.7
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	2.3E+05	3.4E+06	300	0.057	12851.7
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	4.2E+04	1.7E+06	300	0.057	2367.4
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.1E+05	300	0.057	2367.4
<b>Total</b>					<b>6.2E+05</b>	<b>1.3E+07</b>			<b>3.5E+04</b>

Average Vehicle Weight Per Trip =  $\frac{20.3}{20.3}$  tons/trip  
Average Miles Per Trip =  $\frac{0.057}{0.057}$  miles/trip

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

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	0.00036	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	0.6	g/m <sup>2</sup> = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

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

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	0.66	0.13	0.02	lb/mile
Mitigated Emission Factor, Eext =	0.60	0.12	0.02	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.79	0.15	0.02	0.72	0.14	0.02	0.36	0.07	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.79	0.15	0.02	0.72	0.14	0.02	0.36	0.07	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.026	0.005	7.5E-04	0.024	0.005	6.8E-04	0.012	2.3E-03	3.4E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.026	0.005	7.5E-04	0.024	0.005	6.8E-04	0.012	2.3E-03	3.4E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	5.5E-03	1.1E-03	1.6E-04	5.0E-03	9.8E-04	1.4E-04	2.5E-03	4.9E-04	7.2E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	5.5E-03	1.1E-03	1.6E-04	5.0E-03	9.8E-04	1.4E-04	2.5E-03	4.9E-04	7.2E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	4.23	0.82	0.12	3.87	0.75	0.11	1.93	0.38	0.06
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	4.23	0.82	0.12	3.87	0.75	0.11	1.93	0.38	0.06
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.78	0.15	0.02	0.71	0.14	0.02	0.36	0.07	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.78	0.15	0.02	0.71	0.14	0.02	0.36	0.07	0.01
<b>Totals</b>		<b>11.66</b>	<b>2.27</b>	<b>0.34</b>	<b>10.66</b>	<b>2.07</b>	<b>0.31</b>	<b>5.33</b>	<b>1.04</b>	<b>0.15</b>

**Methodology**

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

**Abbreviations**

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

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

Cold Mix Asphalt VOC Usage Limitation = 48.2 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%	50.8	48.2	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	68.9	48.2	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	192.9	48.2	4.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	103.9	48.2	2.155
Other asphalt with solvent binder	25.9%	2.5%	1928.9	48.2	40.0
<b>Worst Case Limited PTE of VOC =</b>				<b>48.2</b>	

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %) =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %) =	9.0% Xylenes
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>12.58</b>
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>4.34 Xylenes</b>

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

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

**Methodology**

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

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

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

\*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2.

Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at:

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

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

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

**Company Name:** Rieth-Riley Construction Co., Inc.  
**Source Address:** 1751 West Minnesota Street, Indianapolis, IN 46221  
**Permit Number:** 097-27199-05319  
**Reviewer:** Brian Williams

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

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

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

**Volatile Organic Compounds**

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

**Hazardous Air Pollutants**

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

**Methodology**

The gasoline throughput was provided by the source.

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

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

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

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

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

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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**Commissioner**

100 North Senate Avenue  
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(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

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

TO: Ed Clements  
Rieth-Riley Construction  
PO Box 477  
Goshen, IN 46527

DATE: February 9, 2010

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

SUBJECT: Final Decision  
New Source FESOP  
097 - 27199 - 05319

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

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

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

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

Final Applicant Cover letter.dot 11/30/07



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Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

February 9, 2010

TO: Decatur Township Public Library

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

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

**Applicant Name: Rieth-Riley Construction**  
**Permit Number: 097 - 27199 - 05319**

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

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Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

TO: Interested Parties / Applicant

DATE: February 9, 2010

RE: Rieth-Riley Construction / 097 - 27199 - 05319

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](mailto:PPEAR@IDEM.IN.GOV).*

Enclosures  
CD Memo.dot 11/14/08

# Mail Code 61-53

IDEM Staff	LPOGOST 2/8/2010 Rieth-Riley Construction Co 097 - 27199 - 05319 (final)		Type of Mail:  <b>CERTIFICATE OF MAILING ONLY</b>	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		

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											Remarks
1		Ed Clements Rieth-Riley Construction Co PO Box 477 Goshen IN 46527 (Source CAATS) Via confirmed delivery <input type="checkbox"/>									
2		Marion County Health Department 3838 N, Rural St Indianapolis IN 46205-2930 (Health Department)									
3		Mrs. Sandra Lee Watson 7834 E 100 S Marion IN 46953 (Affected Party)									
4		Decatur Township Public Library 5301 Kentucky Avenue Indianapolis IN 46221 (Library)									
5		Mr. Thomas W. & Madelyn R. Garr 1732 West Minnesota Street Indianapolis IN 46221 (Affected Party)									
6		Mr. Lisa J. long 1740 West Minnesota Street Indianapolis IN 46221 (Affected Party)									
7		Mr. Donald L. & Roxie R. West 9303 Vandergriff Road Indianapolis IN 46239 (Affected Party)									
8		Mr. Timothy Dean Bruce 1759 West Morgan Street Indianapolis IN 46221 (Affected Party)									
9		Indianapolis City Council and Mayors Office 200 East Washington Street, Room E Indianapolis IN 46204 (Local Official)									
10		Marion County Commissioners 200 E. Washington St. City County Bldg., Suite 801 Indianapolis IN 46204 (Local Official)									
11		Ms. Janet McCabe Improving Kids Environment 3951 N Meridian Street Suite 160 Indianapolis IN 46208-4062 (Affected Party)									
12		Eli Lilly & Company Lilly Corporate Center Indianapolis IN 46285 (Affected Party)									
13		City of Indianapolis, Dept. of Capital Asset Mg 2360 City/County Building, 200 E. Washington Stree Indianapolis IN 46204 (Affected Party)									
14		Belmont Terminals, Inc. 4695 Lake Forest Drive, Suite 100 Cincinnati OH 45242 (Affected Party)									
15		Independent Concrete Pipe Corp 1799 Kentucky Avenue Indianapolis IN 46221 (Affected Party)									

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 <b>Domestic Mail Manual R900, S913, and S921</b> for limitations of coverage on inured and COD mail. See <b>International Mail Manual</b> for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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# Mail Code 61-53

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Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail:  <b>CERTIFICATE OF MAILING ONLY</b>	

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1		Doris & Ralph W c/o R & D Reid Partnership 104 Wilshire Court Noblesville IN 46060 (Affected Party)										
2		Jackson Oil & Solvents, Inc. 1970 Kentucky Avenue Indianapolis IN 46221 (Affected Party)										
3		William H & Anita Martin 1747 Morgan Street Indianapolis IN 46221 (Affected Party)										
4		Betty Jean Duncan Life Est.& Robert & Don & Dennis 1751 Morgan Street Indianapolis IN 46221 (Affected Party)										
5		Dale A & Lee D Stephey 1767 W. Morgan Street Indianapolis IN 46221 (Affected Party)										
6		David R & Carolyn M Staton 1539 S. Richland Street Indianapolis IN 46221 (Affected Party)										
7		Chris & Vicky Sofianopolous 2408 Grey Twig Drive Kokomo IN 46902 (Affected Party)										
8		Jose Cardona 32 S. Tremont Street Indianapolis IN 46222 (Affected Party)										
9		Nathan C Childs 12903 N. Robertson Street Camby TN 46113 (Affected Party)										
10		Albert E. Hardcastle 1718 W. Minnesota Street Indianapolis IN 46221 (Affected Party)										
11		Deutsche Bank National Tr c/o Washington Mutual 2210 Enterprise Drive Florence SC 29501 (Affected Party)										
12		Fred Haley, Jr 1736 W Minnesota Street Indianapolis IN 46221 (Affected Party)										
13		James E. & Mary F Long 1742 W Minnesota Street Indianapolis IN 46221 (Affected Party)										
14		James D. & Marian A Sinclair- Living Trust 1746 W Minnesota Street Indianapolis IN 46221 (Affected Party)										
15		Helen M. Patton 1775 Morgan Street Indianapolis IN 46221 (Affected Party)										

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 <b>Domestic Mail Manual R900, S913, and S921</b> for limitations of coverage on inured and COD mail. See <b>International Mail Manual</b> for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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# Mail Code 61-53

IDEM Staff	LPOGOST 2/8/2010 Rieth-Riley Construction Co 097 - 27199 - 05319 (final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING	
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail:  <b>CERTIFICATE OF MAILING ONLY</b>	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Donna 8470 Evergreen Avenue Indianapolis IN 46240 (Affected Party)										
2		Charles J. & Patricia L. Grey 1604 W Minnesota Street Indianapolis IN 46221 (Affected Party)										
3		John & Margaret Fulk Rusher 4201 Bluff Road Indianapolis IN 46217 (Affected Party)										
4		Donna Moreano, Tony Elliot, Etc. 1553 S Reisner Street Indianapolis IN 46221 (Affected Party)										
5		Daniel J. & Karen S Stewart 1549 S Reisner Street Indianapolis IN 46221 (Affected Party)										
6		Angel L Alejandro & Tammy S Monroe 1545 S Reisner Street Indianapolis IN 46221 (Affected Party)										
7		Allonso Garza Ruvio 1704 W Minnesota Street Indianapolis IN 46221 (Affected Party)										
8		Anita Lynn & Thomas J Lagle Jr. 2205 N Leland Avenue Indianapolis IN 46219 (Affected Party)										
9		Ricardo Rosales 1710 W Minnesota Street Indianapolis IN 46221 (Affected Party)										
10		Charles F. Shearer 1545 Shepard Street Indianapolis IN 46221 (Affected Party)										
11		Mathew Suttan 936 S 69th Place Springfield OK 97478 (Affected Party)										
12		Tomas Guevara Palizada 1830 W Minnesota Street Indianapolis IN 46221 (Affected Party)										
13		Roger & Colleen Bradshaw 392 Conestoga Way San Jose CA 95123 (Affected Party)										
14		Violet A Douglass & Jinny L Pittman 1822 W Minnesota Street Indianapolis IN 46221 (Affected Party)										
15		Mary F Applegate 1814 W Minnesota Street Indianapolis IN 46221 (Affected Party)										

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 <b>Domestic Mail Manual R900, S913, and S921</b> for limitations of coverage on inured and COD mail. See <b>International Mail Manual</b> for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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1		William 1812 W Minnesota Street Indianapolis IN 46221 (Affected Party)										
2		John R & Roxann C Simmons, Etc. 1806 W Minnesota Street Indianapolis IN 46221 (Affected Party)										
3		Gary Dixon 3141 E Kelly Street Indianapolis IN 46203 (Affected Party)										
4		Jeanne Marie Totton 1844 W Minnesota Street Indianapolis IN 46221 (Affected Party)										
5		Joyce D Crawford 1550 Shepard Street Indianapolis IN 46221 (Affected Party)										
6		Barbara J. Smith P.O. Box 241232 Indianapolis IN 46224 (Affected Party)										
7		Bankers Trust Co c/o Countrywide Home Loans 400 Countrywide Way Simi Valley CA 93065 (Affected Party)										
8		Harriett Legatzke 1551 Kappes Street Indianapolis IN 46221 (Affected Party)										
9		City of Indianapolis - Dept. of Transport 200 East Washington Street, Suite 2322 Indianapolis IN 46204 (Affected Party)										
10		City of Indianapolis - Dept. of Mass Transport 200 E Washington Street-City/County Bldg Room 2160 Indianapolis IN 46204 (Affected Party)										
11		Consolidated Rail Corp P.O. Box 8499 Philadelphia PA 19101 (Affected Party)										
12		Greg Bowes 200 E Washington Street-City/County Bldg Room 1121 Indianapolis IN 46204 (Affected Party)										
13		Mike Rodman 200 E Washington Street-City/County Bldg Room 1121 Indianapolis IN 46204 (Affected Party)										
14		Billie Breaux 200 E Washington Street-City/County Bldg Room 1121 Indianapolis IN 46204 (Affected Party)										
15		Greg Ballard 200 E Washington St - City/County Bldg Room 1121 Indianapolis IN 46204 (Affected Party)										

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1		Matt Office of Sustainability 2700 South Belmont Ave. Administration Bldg. Indianapolis IN 46221 (Local Official)										
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

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