



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

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Michael R. Pence
Governor

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NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding a New Source Construction and
Federally Enforceable State Operating Permit (FESOP)
for Rieth-Riley Construction Company, Inc. in St. Joseph County

FESOP No.: F141-36797-05408

The Indiana Department of Environmental Management (IDEM) has received an application from Rieth-Riley Construction Company, Inc., located at 4150 Mayflower Road, South Bend, IN 46628, for a new source construction and FESOP. If approved by IDEM's Office of Air Quality (OAQ), this proposed permit would allow Rieth-Riley Construction Company, Inc. to construct and operate a new portable hot mix asphalt plant.

The applicant intends to construct and operate new equipment that will emit air pollutants. The potential to emit of any regulated pollutants will be limited to less than the TV and/or PSD major threshold levels, respectively. IDEM has reviewed this application, and has developed preliminary findings, consisting of a draft permit and several supporting documents, that would allow the applicant to make this change.

A copy of the permit application and IDEM's preliminary findings are available at:

St. Joseph County Public Library, German Township Branch
52807 Lynnewood Ave.
South Bend, IN 46628

and

IDEM Northern Regional Office
300 N. Michigan Street, Suite 450
South Bend, IN 46601-1295

A copy of the preliminary findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

How can you participate in this process?

The date that this notice is published in a newspaper marks the beginning of a 30-day public comment period. If the 30th day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the **air pollution impact** of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting, you would have an opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so

that you can be added to IDEM's mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number F141-36797-05408 in all correspondence.

Comments should be sent to:

Madhurima Moulik
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for extension 3-0868
Or dial directly: (317) 233-0868
Fax: (317) 232-6749 attn: Madhurima Moulik
E-mail: mmoulik@idem.IN.gov

All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have legal authority to regulate zoning, odor, or noise. For such issues, please contact your local officials.

For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

What will happen after IDEM makes a decision?

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM's response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision. The notice will provide details on how you may appeal IDEM's decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above, at the local library indicated above, at the IDEM Regional Office indicated above, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions, please contact Madhurima Moulik of my staff at the above address.



Jason R. Krawczyk, Section Chief
Permits Branch
Office of Air Quality



Indiana Department of Environmental Management

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DRAFT

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

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

Operation Permit No.: F141-36797-05408	
Issued by: Jason R. Krawczyk, Section Chief Permits Branch Office of Air Quality	Issuance Date: Expiration Date:

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SECTION A SOURCE SUMMARY

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

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

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

Initial Source Address:	4150 Mayflower Road, South Bend, Indiana 46628
General Source Phone Number:	574-875-5183
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
Initial County Location:	St Joseph
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

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

- (a) One (1) portable hot mix asphalt plant, identified as Unit 1, equipped with a 100 MMBtu/hr dryer burner identified as Unit 2, approved in 2016 for construction, using recycled asphalt pavement, liquid asphalt cement, recycled shingles, blast furnace and electric arc furnace steel mill slag, combusting waste oil as primary fuel, No. 2 fuel oil, No. 4 fuel oil, natural gas, propane, and butane as secondary fuels, with a maximum capacity of 400 tons per hour, using a baghouse as control, and exhausting to stack SV1.
- (b) One (1) truck unloading operation, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (c) One (1) conveyor drop, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (d) One (1) screening operation, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (e) One (1) 4.9 acre RAP storage pile, approved in 2016 for construction, with a storage capacity of 500,000 tons.
- (f) One (1) aggregate cold feed bin, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.

Under NSPS 40 CFR Part 60, Subpart I, New Source Performance Standards for Hot-mix Asphalt Plants, the units listed above are considered an effected facility.

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

This stationary source also includes the following insignificant activities:

- (a) One (1) diesel-fired Cummins CI internal combustion non-road engine (4SLB), identified as Genset 1, manufactured after 2006, with a rated capacity of 1500 HP (engine displacement 50.3 liters), and exhausting to stack SV6.
- (b) One (1) diesel-fired Perkins CI internal combustion non-road engine (4SLB), identified as Genset 2, manufactured after 2006, with a rated capacity of 100 HP (engine displacement 4.4 liters), and exhausting to stack SV6
- (c) One (1) hot oil heater, with a heat input capacity of 1.5 MMBtu/hr, combusting waste oil as primary fuel, No. 2 fuel oil, natural gas, and propane as secondary fuels, and exhausting to stack SV2.
- (d) Two (2) 30,000 above ground horizontal liquid asphalt cement storage tanks, identified as Unit #4 and #5, and exhausting to stacks SV3 and SV4, respectively.
- (e) One (1) 25,000 above ground horizontal fuel storage tank, identified as Unit #6, and exhausting to stack SV5.
- (f) Paved and unpaved roads.

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]

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)]

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]

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, F141-36797-05408, 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]

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]

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)]

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)]

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)]

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

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

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

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

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. 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 July 1 of each year to:

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

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

- (c) The annual compliance certification report shall include the following:
- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

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

B.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)]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

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

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

The Permittee shall implement the PMPs.

- (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. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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 or Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Northern Regional Office phone: (574) 245-4870; fax: (574) 245-4877.

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

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

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

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

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

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

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
 - (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

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

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

- (a) All terms and conditions of permits established prior to F141-36797-05408 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)]

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

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.18 Permit Renewal [326 IAC 2-8-3(h)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(42). The renewal application does require a

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

Request for renewal shall be submitted to:

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

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.19 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

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

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

B.20 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

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

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;

- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

- (4) The Permittee notifies the:

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

and

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

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

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b)(1) and (c). The Permittee shall make such records available, upon reasonable request, for public review.

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

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

B.21 Source Modification Requirement [326 IAC 2-8-11.1]

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

B.22 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as

such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

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

B.23 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

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

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

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

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

B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.

- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.25 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

C.1 Overall Source Limit [326 IAC 2-8]

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

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

C.2 Opacity [326 IAC 5-1]

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

- (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 located in any of the following areas:
 - (a) Clark County, Jeffersonville Township.
 - (b) Dearborn County, Lawrenceburg Township.
 - (c) Dubois County, Bainbridge Township.
 - (d) Lake County, an area bounded on the north by Lake Michigan, on the west by the Indiana-Illinois state line, on the south by U.S. 30 from the state line to the

- intersection of I-65 to the intersection of I-94 then following I-94 to the Lake-Porter county line, and on the east by the Lake-Porter county line.
- (e) 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.
 - (f) St. Joseph County, the area north of Kern Road and east of Pine Road.
 - (g) Vanderburgh County, the area included in the city of Evansville and Pigeon Township.
 - (h) Vigo County, the area within a five-tenths (0.5) kilometer radius circle centered at UTM Coordinates Zone 16 East four hundred sixty-four and fifty-two hundredths (464.52) kilometers North four thousand three hundred sixty-nine and twenty-one hundredths (4,369.21) kilometers.
- (3) 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 located in Lake County.
- (4) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

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

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

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

C.5 Fugitive Dust Emissions [326 IAC 6-4]

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

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

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

C.7 Fugitive Particulate Matter Emissions [326 IAC 6.8-10-3]

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

- (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 opacity of fugitive particulate emissions from exposed areas shall not exceed ten percent (10%) on a six (6) minute average.

- (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) Material processing facilities shall include the following:
 - (A) 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.
 - (B) The PM10 emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
 - (C) The PM10 stack emissions from a material processing facility shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
 - (D) The opacity of fugitive particulate emissions from the material processing facilities, except a crusher at which a capture system is not used, shall not exceed ten percent (10%) opacity.
 - (E) The opacity of fugitive particulate emissions from a crusher at which a capture system is not used shall not exceed fifteen percent (15%).
- (i) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).
- (j) Material transfer limits shall be as follows:
 - (A) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).
 - (B) Where adequate wetting of the material for fugitive particulate emissions control is prohibitive to further processing or reuse of the material, the opacity shall not exceed ten percent (10%), three (3) minute average.
 - (C) Slag and kish handling activities at integrated iron and steel plants shall comply with the following particulate emissions limits:
 - (i) 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.
 - (ii) 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).

- (k) 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 Fugitive Dust Control Plan, which is included as Attachment A to the permit.

C.8 Lake County Particulate Matter Contingency Measures [326 IAC 6.8-11]

The Permittee shall comply with the applicable provisions of 326 IAC 6.8-11 (Lake County Particulate Matter Contingency Measures), when the source is located in Lake County.

C.9 Stack Height [326 IAC 1-7]

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

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

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

All required notifications shall be submitted to:

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

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

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

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

C.11 Performance Testing [326 IAC 3-6]

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

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

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

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.12 Compliance Requirements [326 IAC 2-1.1-11]

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

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

C.13 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

- (a) For new units:
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.
- (b) For existing units:
Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance to begin such monitoring. If, due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

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

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

C.14 Continuous Compliance Plan [326 IAC 6.8-8-1] [326 IAC 6.8-8-8]

When the facility is located in Lake County:

- (a) Pursuant to 326 IAC 326 IAC 6.8-8-1, 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.15 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. The analog instrument shall be capable of measuring values outside of the normal range.

- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

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

C.16 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

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

C.17 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

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

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

C.18 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ

that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.

- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

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

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

C.19 Emission Statement [326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(a)(1), when located in Lake or Porter County, the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

- (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
- (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

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 a certification by a "responsible official" as defined by 326 IAC 2-7-1(35).

C.20 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:

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

Records of required monitoring information include the following, where applicable:

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

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the

remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.21 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) 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.22 Relocation of Portable Sources [326 IAC 2-14-4]

- (a) This permit is approved for operation all attainment areas for ozone in Indiana and in Lake and Porter Counties which are classified as nonattainment 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. Prior to locating in any other nonattainment area, the Permittee must submit a request and obtain a permit revision.
- (b) A request to relocate shall be submitted to IDEM, OAQ at least thirty (30) days prior to the intended date of relocation. This submittal shall include the following:

- (1) A list of governmental officials entitled to receive notice of application to relocate. IC 13-15-3-1
- (2) A list of adjacent landowners that the Permittee will send written notice to not more than ten (10) days after submission of the request to relocate. IC 13-15-8
- (3) The new location address of the portable source.
- (4) Whether or not this portable source will be relocated to another source.
- (5) If relocating to another source:
 - (A) Name, location address, and permit number of the source this portable source is relocating to.
 - (B) Whether or not the sources will be considered as one source. See Non Rule Policy (NRP) Air-005 and Air-006.
- (6) If the sources will be considered as one source, whether or not the source to be relocated to has received the necessary approvals from IDEM to allow the relocation.

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

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

Stratospheric Ozone Protection

C.23 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) portable hot mix asphalt plant, identified as Unit 1, equipped with a 100 MMBtu/hr dryer burner identified as Unit 2, approved in 2016 for construction, using recycled asphalt pavement, liquid asphalt cement, recycled shingles, blast furnace and steel slag, combusting waste oil as primary fuel, No. 2 fuel oil, No. 4 fuel oil, natural gas, propane, and butane as secondary fuels, with a maximum capacity of 400 tons per hour, using a baghouse as control, and exhausting to stack SV1.
- (b) One (1) truck unloading operation, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (c) One (1) conveyor drop, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (d) One (1) screening operation, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (e) One (1) 4.9 acre RAP storage pile, approved in 2016 for construction, with a storage capacity of 500,000 tons.
- (f) One (1) aggregate cold feed bin, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.

Under NSPS 40 CFR Part 60, Subpart I, New Source Performance Standards for Hot-mix Asphalt Plants, the units listed above are considered an effected facility.

Insignificant Activities:

- (c) One (1) hot oil heater, with a heat input capacity of 1.5 MMBtu/hr, combusting waste oil as primary fuel, No. 2 fuel oil, natural gas, and propane as secondary fuels, and exhausting to 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 PSD Minor Limit [326 IAC 2-2]

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

- (a) The amount of asphalt processed shall not exceed 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM emissions from the dryer/mixer shall not exceed 0.315 pounds per ton of asphalt processed.
- (c) The Permittee shall control PM emissions from the paved and unpaved roads according to the fugitive dust plan, included as Attachment A to the permit.

Compliance with these limitations, combined with the limited potential to emit from other emission units at this source, shall limit the source-wide total potential to emit 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.1.2 FESOP Limits: PM-10, PM2.5, NOx, and VOC [326 IAC 2-8-4][326 IAC 2-2][326 IAC 8-1-6]

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP) and in order to render 326 IAC 2-2, 326 IAC 2-7 not applicable, the Permittee shall comply with the following:

- (a) The amount of asphalt processed shall not exceed 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM₁₀ emissions from the dryer/mixer shall not exceed 0.143 pounds per ton of asphalt processed.
- (c) The PM_{2.5} emissions from the dryer/mixer shall not exceed 0.177 pounds of PM2.5 per ton of asphalt produced.
- (d) The VOC emissions from the dryer/mixer shall not exceed 0.032 lb/ton of asphalt produced.
- (e) The CO emissions from the dryer/mixer shall not exceed 0.130 lb/ton of asphalt produced.
- (f) The Permittee shall control PM10 and PM2.5 emissions from the paved and unpaved roads according to the fugitive dust plan, included as Attachment A to the permit.

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

Compliance with the throughput limit in Condition D.1.2(a) and the lb/ton VOC emission limit in Condition D.1.2(d) shall limit the VOC emissions from the dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) not applicable.

D.1.3 FESOP Limits: SO2, NOx, and HAPs [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, the Permittee shall comply with the following:

- (a) Fuel and Slag Specifications
 - (1) The sulfur content of the No. 2 and No. 4 distillate fuel oils shall each not exceed 0.5% by weight;
 - (2) The sulfur content of the waste oil shall not exceed 1.0% by weight;
 - (3) The waste oil combusted shall not contain more than 0.7% ash, 0.400% chlorine, and 0.001% lead;
 - (4) HCl emissions from waste oil combustion shall not exceed 0.0264 pounds of HCl

per gallon;

- (5) The sulfur content of the blast furnace slag shall not exceed 1.50% by weight;
- (6) The SO₂ emissions from the dryer/mixer shall not exceed 0.740 pounds per ton of blast furnace slag processed in the aggregate mix;
- (7) The sulfur content of the steel slag shall not exceed 0.66% by weight; and
- (8) The SO₂ emissions from the dryer/mixer shall not exceed 0.0014 pounds per ton of steel slag processed in the aggregate mix.

(b) Single Fuel and Slag Usage Limitation

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

- (1) Natural Gas usage shall not exceed 876 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (2) No. 2 fuel oil usage shall not exceed 2,788,732 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (3) No. 4 fuel oil usage shall not exceed 2,640,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (4) Propane usage shall not exceed 9,679,558 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (5) Butane usage shall not exceed 8,993,840 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (6) Waste oil usage shall not exceed 750,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month; and
- (7) The blast furnace slag and steel slag usage shall each not exceed 1,471,680 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) Multiple Fuel Usage Limitations

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

- (1) SO₂ emissions shall not exceed 99.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) NO_x emissions shall not exceed 99.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) Asphalt Shingle Usage Limitations:

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)) not applicable, the Permittee shall not grind recycled asphalt shingles on-site and shall only use the following as an additive in its aggregate mix:

- (1) Certified asbestos-free factory second asphalt shingles;

- (2) Post consumer waste shingles generated at single family homes and/or residential buildings containing four or fewer dwelling units; and/or
- (3) Factory second shingles and/or post consumer waste shingles that have sampled negative for asbestos.

Compliance with these limits, combined with the potential to emit SO₂, NO_x, HCl, and any combination of HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO₂ and NO_x to less than one hundred (100) tons per twelve (12) consecutive month period, each, HCl to less than ten (10) tons per twelve (12) consecutive month period, and any combination of HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

D.1.4 Particulate Emission Limits [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the dryer/mixer, hot oil heater, and all emission units comprising the material handling, screening, and conveying systems, each, 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.1.5 Particulate Emission Limits [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (Lake County: Particulate Matter Emissions), particulate matter emissions from the dryer/mixer, hot oil heater, and all emission units comprising the material handling, screening, and conveying systems, each, shall not exceed 0.03 grain per dry standard cubic foot (dscf), when the source is located in Lake County.

D.1.6 Particulate Emission Limits [326 IAC 6-2]

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

D.1.7 Particulate Emission Limits [326 IAC 6-3-2]

When located in any county other than Clark, Dearborn, Dubois, Howard, Lake, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne, pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the dryer/mixer and screening operation shall not exceed pounds 66.31 pounds per hour (each) when operating at a process weight rate of 400 tons (800,000 pounds) per hour. The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.1.8 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

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

- (a) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed five tenths (0.5) pounds per MMBtu when using distillate oil.
- (b) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed one and six tenths (1.6) pounds per MMBtu heat input when using residual oil.

- (c) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.1.9 Volatile Organic Liquid Storage Vessels [326 IAC 8-9-6]

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 each of the three (3) storage tanks, when the source is located in Clark, Floyd, Lake or Porter 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.

D.1.10 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.1.11 Particulate Control

- (a) In order to assure compliance with Conditions D.1.1(b), D.1.2(b) and (c), D.1.4, D.1.5, and D.1.7, 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.1.12 Multiple Fuel and Slag Usage / Sulfur Dioxide (SO₂) Emissions

- (a) In order to assure compliance with the Condition D.1.3(c)(1), when combusting any single fuel or more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner and/or hot oil heater, in conjunction with the use of slag in the aggregate mix, the Permittee shall limit fuel and slag usage according to the following formula:

Sulfur Dioxide Emission Calculation:

$$S = \frac{G(E_G) + O(E_O) + F(E_F) + P(E_P) + W(E_W) + B(E_B) + BL(E_{BL}) + SL(E_{SL})}{2,000 \text{ lbs/ton}}$$

where:

- S = tons of sulfur dioxide emissions for a 12-month consecutive period
G = million cubic feet of natural gas used in the in the dryer/mixer last 12 months;
O = gallons of No. 2 fuel oil used in the dryer/mixer in the last 12 months
F = gallons of No. 4 fuel oil used in the dryer/mixer in the last 12 months
P = gallons of propane used in the dryer/mixer in the last 12 months
W = gallons of waste oil used in the dryer/mixer in the last 12 months
B = gallons of butane used in the dryer/mixer in the last 12 months

BL = tons of blast furnace slag used in the dryer/mixer in the last 12 months
SL = tons of steel slag used in the dryer/mixer in the last 12 months
E_G = 0.60 lb/million cubic feet of natural gas
E_O = 71.0 lb/1000 gallons of No. 2 fuel oil
E_F = 75.0 lb/1000 gallons of No. 4 fuel oil
E_P = 0.02 lb/1000 gallons of propane
E_W = 147.0 lb/1000 gallons of waste oil
E_B = 0.02 lb/1000 gallons of butane
E_{BL} = 0.74 lbs/ton of blast furnace slag used
E_{SL} = 0.0014 lbs/ton of blast furnace slag used

- (b) In order to assure compliance with the Condition D.1.3(c)(2), when combusting any single fuel or more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner and/or hot oil heater, in conjunction with the use of slag in the aggregate mix, the Permittee shall limit fuel and slag usage according to the following formula:

Nitrogen Oxides (NO_x) Emission Calculation:

$$N = \frac{G(E_G) + O(E_O) + F(E_F) + P(E_P) + W(E_W) + B(E_B)}{2,000 \text{ lbs/ton}}$$

where:

N = tons of nitrogen oxide emissions for a 12-month consecutive period;
G = million cubic feet of natural gas used in the in the dryer/mixer last 12 months;
O = gallons of No. 2 fuel oil used in the dryer/mixer in the last 12 months
F = gallons of No. 4 fuel oil used in the dryer/mixer in the last 12 months
P = gallons of propane used in the dryer/mixer in the last 12 months
W = gallons of waste oil used in the dryer/mixer in the last 12 months
B = gallons of butane used in the dryer/mixer in the last 12 months
E_G = 190 lb/million cubic feet of natural gas;
E_O = 24.0 lb/1000 gallons of No. 2 fuel oil;
E_F = 47.0 lb/1000 gallons of No. 4 fuel oil
E_P = 13.0 lb/1000 gallons of propane
E_B = 15.0 lb/1000 gallons of butane
E_W = 19.0 lb/1000 gallons of waste oil

D.1.13 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.1.1(b), D.1.2(b) and (c), D.1.4, D.1.5, and D.1.7, the Permittee shall perform PM, PM₁₀, and PM_{2.5} testing of the dryer/mixer not later than sixty (60) days of reaching maximum capacity but no later than one hundred eighty (180) days after initial startup, using methods approved by the Commissioner. The test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM₁₀ and PM_{2.5} include filterable and condensable particulate matter.

D.1.14 Sulfur Dioxide (SO₂) Emissions and Sulfur Content

Fuel Oil

- (a) Compliance with the fuel limitations established in Conditions D.1.3 (a)(1), D.1.3(a)(2) and D.1.6 shall be determined utilizing one of the following options.
- (1) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five tenths (0.5) pounds per million British thermal units heat input when combusting No. 2 distillate fuel oil, or one and six

tenths (1.6) pounds per million British thermal units heat input when combusting waste oil, by:

- (A) Providing vendor analysis of heat content and sulfur content of the fuel delivered, if accompanied by a vendor certification; or
- (B) Analyzing the fuel sample to determine the sulfur content of the fuel via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (i) Fuel samples may be collected from the fuel tank immediately after the fuel tank is filled and before any fuel is combusted; and
 - (ii) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (2) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 117 MMBtu per hour dryer burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

Blast Furnace Slag

- (b) Compliance with the blast furnace slag limitation established in Condition D.1.3(a)(5) shall be determined utilizing one of the following options. Pursuant to 326 IAC 2-8-4 (FESOP), compliance shall be demonstrated on a thirty (30) day calendar-month average.
 - (1) Maintaining all records of vendor analyses or certifications of Blast Furnace slag delivered; or
 - (2) Analyzing a sample of each blast furnace slag delivery, if no vendor analyses or certifications are available, 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.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 117 MMBtu/hr dryer burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

Steel Slag

- (c) Compliance with the steel slag limitations established in Condition D.1.3(a)(7) shall be determined utilizing one of the following options. Pursuant to 326 IAC 2-8-4 (FESOP), compliance shall be demonstrated on a thirty (30) day calendar-month average.
 - (1) Maintaining all records of vendor analyses or certifications of steel slag delivered; or
 - (2) Analyzing a sample of each steel slag delivery, if no vendor analyses or

certifications are available, at least once per quarter, to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

- (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the dryer burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

D.1.15 Hydrogen Chloride (HCl) Emissions and Sulfur, Ash, Chlorine, and Lead Content

The Permittee shall demonstrate compliance with the waste oil sulfur, ash, lead and chlorine content limits established in Condition D.1.3(a)(3), by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.

D.1.16 Shingle Asbestos Content

Pursuant to 326 IAC 2-8-4, compliance with Condition D.1.3(d) shall be determined utilizing one of the following options:

- (a) Providing a shingle supplier certification that the factory second shingles do not contain asbestos;
- (b) Obtaining from the post consumer waste shingle supplier a signed certification that the post consumer waste shingles were generated at single family homes and/or residential buildings containing four or fewer dwelling units; and/or
- (c) Analyzing a sample of the factory second shingles and/or post consumer waste shingles delivery to determine the asbestos content of the shingles, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

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

D.1.17 Visible Emissions Notations

- (a) Visible emission notations from the dryer/mixer stack (SV1) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.1.18 Record Keeping Requirement

- (a) To document the compliance status with Conditions D.1.1(a), and D.1.2(a), the Permittee shall keep monthly records of the amount of asphalt processed through the dryer/mixer.
- (b) To document the compliance status with Conditions D.1.3, D.1.8, D.1.9, D.1.12, D.1.14, D.1.15 and D.1.16, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) below shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3, D.1.8, D.1.9, D.1.12, D.1.14, D.1.15 and D.1.16.
- (1) Calendar dates covered in the compliance determination period;
 - (2) 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;
 - (3) 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;
 - (4) 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
 - (5) 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, No.4 and waste oil, and the chlorine content of waste oil.
 - (6) 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;
 - (7) 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
 - (8) If the slag supplier certification is used to demonstrate compliance, the following, as a minimum, shall be maintained:
 - (A) Blast furnace and steel slag supplier certifications;
 - (B) The name of the blast furnace and steel slag supplier; and

- (C) A statement from the blast furnace and steel slag supplier that certifies the sulfur content of the blast furnace and steel slag.
- (9) If the factory second shingle supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (A) Factory second shingle supplier certifications;
 - (B) The name of the factory second shingle supplier(s); and
 - (C) A statement from the factory second shingle supplier(s) that certifies the shingles from their company do not contain asbestos.
- (11) If the post consumer waste shingle supplier certification is used to demonstrate compliance, the following as a minimum, shall be maintained:
 - (A) Post consumer waste shingle supplier certifications;
 - (B) The name of the post consumer waste shingle supplier(s); and
 - (C) A statement from the post consumer shingle supplier(s) that certifies the shingles were generated at single family homes and/or residential buildings containing four or fewer dwelling units. (11) If the factory second shingles and/or post consumer waste shingles are analyzed to determine the asbestos content, the following, as a minimum, shall be maintained:
- (12) If the factory second shingles and/or post consumer waste shingles are analyzed to determine the asbestos content, the following, as a minimum, shall be maintained:
 - (A) The name of the shingle supplier(s);
 - (B) The name of the certified lab or certified personnel that performed the shingle asbestos content analysis; and
 - (C) The shingle asbestos content analysis results.
- (c) To document the compliance status with Condition D.1.17, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack SV1 exhaust once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.19 Reporting Requirements

Quarterly summaries of the information to document the compliance status with Conditions D.1.1(a), D.1.2(a), and D.1.3(b) and (c), shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does

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

SECTION E.1

NSPS

Emissions Unit Description:

- (a) One (1) portable hot mix asphalt plant, identified as Unit 1, equipped with a 100 MMBtu/hr dryer burner identified as Unit 2, approved in 2016 for construction, using recycled asphalt pavement, liquid asphalt cement, recycled shingles, blast furnace and steel slag, combusting waste oil as primary fuel, No. 2 fuel oil, No. 4 fuel oil, natural gas, propane, and butane as secondary fuels, with a maximum capacity of 400 tons per hour, using a baghouse as control, and exhausting to stack SV1.
- (b) One (1) truck unloading operation, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (c) One (1) conveyor drop, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (d) One (1) screening operation, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (e) One (1) 4.9 acre RAP storage pile, approved in 2016 for construction, with a storage capacity of 500,000 tons.
- (f) One (1) aggregate cold feed bin, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.

Under NSPS 40 CFR Part 60, Subpart I, New Source Performance Standards for Hot-mix Asphalt Plants, the units listed above are considered an effected 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 New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission units listed above, except as otherwise specified in 40 CFR Part 60, Subpart I.

(b) Pursuant to 40 CFR 60.4, 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 Hot Mix Asphalt Facilities NSPS [326 IAC 12] [40 CFR Part 60, Subpart I]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart I (included as Attachment B to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission units listed above:

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

Compliance Determination Requirements [326 IAC 2-8-4(1)]

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

The Permittee shall perform the stack testing required under NSPS 40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner to demonstrate compliance with Condition E.1.2. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

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

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

Source Name: Rieth-Riley Construction Co., Inc.
Initial Source Address: 4150 Mayflower Road, South Bend, Indiana 46628
FESOP Permit No.: F141-36797-05408

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: 4150 Mayflower Road, South Bend, Indiana 46628
FESOP Permit No.: F141-36797-05408

This form consists of 2 pages

Page 1 of 2

- | |
|--|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-8-12 |
|--|

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

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

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

Page 2 of 2

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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

FESOP Quarterly Report

Source Name: Rieth-Riley Construction Co., Inc.
Initial Source Address: 4150 Mayflower Road, South Bend, Indiana 46628
FESOP Permit No.: F141-36797-05408
Facility: Dryer/Mixer
Parameter: Hot-mix asphalt production
Limit: The amount of hot-mix asphalt produced in the dryer/burner 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

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

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

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

FESOP Quarterly Report

Page 1 of 2

Source Name: Rieth-Riley Construction Co., Inc.
Initial Source Address: 4150 Mayflower Road, South Bend, Indiana 46628
FESOP Permit No.: F141-36797-05408
Facility: Dryer/Mixer Burner

Parameter: **Fuel Usage / SO₂ and NO_x Emissions**

Emission Limits: Sulfur dioxide (SO₂) emissions shall not exceed 99.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12(a).

Nitrogen oxides (NO_x) emissions shall not exceed 99.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12(b).

Fuel Limits: When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer, fuel usage shall not exceed the following:

Fuel and Slag Type (Units)	Fuel and Slag Usage Limit (per 12 consecutive month period)
Natural Gas (million cubic feet)	876
No. 2 Distillate Fuel Oil (gallons)	2,788,732
No. 4 Distillate Fuel Oil (gallons)	2,640,000
Propane (gallons)	9,679,558
Butane (gallons)	8,993,840
Blast Furnace Slag (tons)	1,471,680
Steel Slag (tons)	1,471,680
Waste Oil (gallons) (dryer)	750,000

FESOP Quarterly Report - Fuel & Slag Usage / Sulfur Dioxide (SO2) and Nitrogen Oxide (NOx) Emissions

QUARTER: _____ YEAR: _____

Month	Fuel Types / Slag (units)	Column 1	Column 2	Column 1 + Column 2	Equation Results	Equation Results
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	SO2 Emissions (tons per 12 months)	NOx Emissions (tons per 12 months)
	Natural Gas (MMCF)					
	No. 2 Fuel Oil (gallons)					
	No.4 Fuel Oil (gallons)					
	Propane (gallons)					
	Butane (gallons)					
	Waste Fuel Oil (gallons)					
	Blast Furnace Slag (tons)					
	Steel Slag (tons)					
	Natural Gas (MMCF)					
	No. 2 Fuel Oil (gallons)					
	No.4 Fuel Oil (gallons)					
	Propane (gallons)					
	Butane (gallons)					
	Waste Fuel Oil (gallons)					
	Blast Furnace Slag (tons)					
	Steel Slag (tons)					
	Natural Gas (MMCF)					
	No. 2 Fuel Oil (gallons)					
	No. 4 Fuel Oil (gallons)					
	Propane (gallons)					
	Butane (gallons)					
	Waste Fuel Oil (gallons)					
	Blast Furnace Slag (tons)					
	Steel Slag (tons)					

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

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

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

Source Name: Rieth-Riley Construction Co., Inc.
Initial Source Address: 4150 Mayflower Road, South Bend, Indiana 46628
FESOP Permit No.: F141-36797-05408

Months: _____ to _____ Year: _____

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

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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

Rieth-Riley Construction Co., Inc.
4150 Mayflower Road
South Bend, Indiana 46628

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. 4150 Mayflower Road, South Bend, Indiana 46628, completed construction of the hot mix asphalt plant. on _____ in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on February 2, 2016 and as permitted pursuant to New Source Construction Permit and Federally Enforceable State Operating Permit No. F141-36797-05408, Plant ID No. 141-05408 issued on _____.

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)

Attachment A

Federally Enforceable State Operating Permit (FESOP) No: F141-36797-05408

Fugitive Dust Control Plan

**Rieth-Riley Construction Company, Inc.
4150 Mayflower Road, South Bend, IN 46628**

- 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. Wetting surface by use of sprinklers or water truck
 - b. Cleaning by vacuum sweeping on an as needed basis
 - c. 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 water on an as needed basis

- 3: Fugitive particulate matter (dust) emissions from outdoor conveying of aggregates shall be controlled by one of the following measures:
 - A. Minimizing drop at the feed and immediate points
 - B. Enclose the transfer points

- 4: Fugitive particulate matter (dust) emissions resulting from the transferring of aggregates shall be controlled by one or more of the following measures:
 - A. Minimize the vehicular distance between transfer points
 - B. Enclose the transfer points

- 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. Maintain a 15 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

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

Operator: Rieth-Riley Construction Co., Inc.

Attachment B

Federally Enforceable State Operating Permit (FESOP) No: F141-36797-05408

[Downloaded from the eCFR on May 13, 2013]

Electronic Code of Federal Regulations

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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**

**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: 4150 Mayflower Road, South Bend, IN 46628
County: St. Joseph (German)
SIC Code: 2951 (Asphalt Paving Mixtures and Blocks)
Operation Permit No.: F 141-36797-05408
Permit Reviewer: Madhurima Moulik

On February 2, 2016, the Office of Air Quality (OAQ) received an application from Rieth-Riley Construction Co., Inc. related to the construction and operation of a new portable hot mix asphalt plant.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard. ¹
PM _{2.5}	Unclassifiable or attainment effective April 5, 2005, for the annual PM _{2.5} standard.
PM _{2.5}	Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM _{2.5} standard.
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.
¹ Attainment effective October 18, 2000, for the 1-hour ozone standard for the South Bend-Elkhart area, including St. Joseph 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 standard was revoked effective June 15, 2005.	

- (a) Ozone Standards
 Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. St. Joseph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM_{2.5}**
St. Joseph County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**
St. Joseph 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 (40 CFR 60, Subpart I), 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 February 2, 2016, relating to the construction and operation of a new portable hot mix asphalt plant.

The following is a list of the new emission units and pollution control devices:

- (a) One (1) portable hot mix asphalt plant, identified as Unit 1, equipped with a 100 MMBtu/hr dryer burner identified as Unit 2, approved in 2016 for construction, using recycled asphalt pavement, liquid asphalt cement, recycled shingles, blast furnace and steel slag, combusting waste oil as primary fuel, No. 2 fuel oil, No. 4 fuel oil, natural gas, propane, and butane as secondary fuels, with a maximum capacity of 400 tons per hour, using a baghouse as control, and exhausting to stack SV1.
- (b) One (1) truck unloading operation, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (c) One (1) conveyor drop, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (d) One (1) screening operation, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (e) One (1) 4.9 acre RAP storage pile, approved in 2016 for construction, with a storage capacity of 500,000 tons.
- (f) One (1) aggregate cold feed bin, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.

Under NSPS 40 CFR Part 60, Subpart I, New Source Performance Standards for Hot-mix Asphalt Plants, the units listed above are considered an effected facility.

The following is a list of the new insignificant activities:

- (a) One (1) diesel-fired Cummins CI internal combustion non-road engine (4SLB), identified as Genset 1, manufactured after 2006, with a rated capacity of 1500 HP (engine displacement 50.3 liters), and exhausting to stack SV6.

- (b) One (1) diesel-fired Perkins CI internal combustion non-road engine (4SLB), identified as Genset 2, manufactured after 2006, with a rated capacity of 100 HP (engine displacement 4.4 liters), and exhausting to stack SV6
- (c) One (1) hot oil heater, with a heat input capacity of 1.5 MMBtu/hr, combusting waste oil as primary fuel, No. 2 fuel oil, natural gas, and propane as secondary fuels, and exhausting to stack SV2.
- (d) Two (2) 30,000 above ground horizontal liquid asphalt cement storage tanks, identified as Unit #4 and #5, and exhausting to stacks SV3 and SV4, respectively.
- (e) One (1) 25,000 above ground horizontal fuel storage tank, identified as Unit #6, exhausting to stack SV5.
- (f) Unpaved roads.

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – FESOP

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

Pollutant	Potential To Emit (tons/year)
PM	49,366.94
PM10 ⁽¹⁾	11,478.54
PM2.5 ⁽¹⁾	2,659.19
SO ₂	1,007.75
NO _x	147.99
VOC	86.15
CO	233.36

- (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) and particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers (PM2.5), not particulate matter (PM), are each considered as a "regulated air pollutant".

HAPs	Potential To Emit (tons/year)
Single HAP (HCl)	83.83
TOTAL HAPs	86.64

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(30)) of PM10, PM2.5, SO2, NOx, and CO are each 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

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of FESOP (tons/year)								
	PM	PM10*	PM2.5**	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Emission Offset Major Source Thresholds	NA**	100	100	100	100	100	100	NA	NA
negl. = negligible, HCl = hydrogen chloride, Formald. = formaldehyde, NA = not applicable *Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant". **PM _{2.5} listed is direct PM _{2.5} . ***Source-wide waste oil usage is limited to 750,000 gallons per twelve (12) consecutive month period and HCl emissions shall not exceed 0.0264 pounds of HCl per gallon, which is equivalent to a source-wide HCl emission limit of 9.90 tons per twelve (12) consecutive month period. Genset 1 and Genset 2 are considered a non-road engines. Pursuant to 326 IAC 1-2-73, a source does not include mobile sources, nonroad engines, or nonroad vehicles. Therefore, the potentials to emit from each of these units have not been counted towards 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and/or 326 IAC 2-3 (Emission Offset).									

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHG emissions to determine operating permit applicability or PSD applicability to a source or modification.

(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 (HCl) 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:

- (a) The amount of asphalt processed shall not exceed 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM₁₀ emissions from the dryer/mixer shall not exceed 0.143 pounds per ton of asphalt processed.
- (c) The PM_{2.5} emissions from the dryer/mixer shall not exceed 0.177 pounds of PM_{2.5} per ton of asphalt produced.
- (d) The VOC emissions from the dryer/mixer shall not exceed 0.032 lb/ton of asphalt produced.

- (e) The CO emissions from the dryer/mixer shall not exceed 0.130 lb/ton of asphalt produced.
- (f) The Permittee shall control PM10 and PM2.5 emissions from the paved and unpaved roads according to the fugitive dust plan, included as Attachment A to the permit.

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

Compliance with the throughput limit in (a) and the lb/ton VOC emission limit in (d) shall limit the VOC emissions from the dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) not applicable.

(g) Fuel and Slag Specifications

- (1) The sulfur content of the No. 2 and No. 4 distillate fuel oils shall each not exceed 0.5% by weight;
- (2) The sulfur content of the waste oil shall not exceed 1.0% by weight;
- (3) The waste oil combusted shall not contain more than 0.7% ash, 0.400% chlorine, and 0.001% lead;
- (4) HCl emissions from waste oil combustion shall not exceed 0.0264 pounds of HCl per gallon of waste oil burned;
- (5) The sulfur content of the blast furnace slag shall not exceed 1.50% by weight;
- (6) The SO₂ emissions from the dryer/mixer shall not exceed 0.740 pounds per ton of blast furnace slag processed in the aggregate mix;
- (7) The sulfur content of the steel slag shall not exceed 0.66% by weight; and
- (8) The SO₂ emissions from the dryer/mixer shall not exceed 0.0014 pounds per ton of steel slag processed in the aggregate mix.

(h) Single Fuel and Slag Usage Limitation

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

- (1) Natural Gas usage shall not exceed 876 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (2) No. 2 fuel oil usage shall not exceed 2,788,732 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (3) No. 4 fuel oil usage shall not exceed 2,640,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (4) Propane usage shall not exceed 9,679,558 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (5) Butane usage shall not exceed 8,993,840 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (6) Waste oil usage shall not exceed 750,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month; and
 - (7) The blast furnace slag and steel slag usage shall each not exceed 1,471,680 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (i) Multiple Fuel Usage Limitations
When combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner and/or hot oil heater, in conjunction with the use of slag in the aggregate mix, emissions shall be limited as follows:
- (1) SO₂ emissions shall not exceed 99.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (2) NO_x emissions shall not exceed 99.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (j) Asphalt Shingle Usage Limitations:
Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)) not applicable, the Permittee shall not grind recycled asphalt shingles on-site and shall only use the following as an additive in its aggregate mix:
- (1) Certified asbestos-free factory second asphalt shingles;
 - (2) Post consumer waste shingles generated at single family homes and/or residential buildings containing four or fewer dwelling units; and/or
 - (3) Factory second shingles and/or post consumer waste shingles that have sampled negative for asbestos.

Compliance with these limits, combined with the potential to emit SO₂, NO_x, HCl, and any combination of HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO₂ and NO_x to less than one hundred (100) tons per twelve (12) consecutive month period, each, HCl to less than ten (10) tons per twelve (12) consecutive month period, and any combination of HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 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:

- (1) The potential to emit NO_x, VOC, and CO are less than 250 tons per year, each;
- (2) The potential to emit PM, PM₁₀, PM_{2.5}, and SO₂ are limited to less than 250 tons per year, each; and
- (3) This source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

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

- (a) The amount of asphalt processed shall not exceed 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM emissions from the dryer/mixer shall not exceed 0.315 pounds per ton of asphalt processed.
- (c) The Permittee shall control PM emissions from the paved and unpaved roads according to the fugitive dust plan, included as Attachment A to the permit.

Compliance with these limitations, combined with the limited potential to emit from other emission units at this source, shall limit the source-wide total potential to emit 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.

- (c) **Emission Offset Minor Source**
This portable source is not major for Emission Offset, because the potential to emit of all nonattainment regulated pollutants from the entire source will be less than the Emission Offset major source threshold levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Federal Rule Applicability Determination

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) One (1) portable hot mix asphalt plant, identified as Unit 1, equipped with a 100 MMBtu/hr dryer burner identified as Unit 2, approved in 2016 for construction, using recycled asphalt pavement, liquid asphalt cement, recycled shingles, blast furnace and steel slag, combusting waste oil as primary fuel, No. 2 fuel oil, No. 4 fuel oil, natural gas, propane, and butane as secondary fuels, with a maximum capacity of 400 tons per hour, using a baghouse as control, and exhausting to stack SV1.
- (2) One (1) truck unloading operation, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (3) One (1) conveyor drop, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (4) One (1) screening operation, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.
- (5) One (1) 4.9 acre RAP storage pile, approved in 2016 for construction, with a storage capacity of 500,000 tons.
- (6) One (1) aggregate cold feed bin, approved in 2016 for construction, with a maximum throughput of 400 tons per hour, using no control.

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 emission units listed above, except as otherwise specified in 40 CFR 60, Subpart I.

- (b) 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 two (2) 30,000 gallon asphalt cement storage tanks, although the construction of the asphalt cement storage tanks will be commenced after July 23, 1984. The two (2) asphalt cement storage tank with a maximum capacity of 30,000 gallons (each) have a capacity greater than 75 cubic meters (equal to 19,813 gallons) and less than 151 cubic meters (equal to 39,890 gallons); however, these tanks will not store liquids with a maximum true vapor pressure greater than 15.0 kPa. Therefore, pursuant to 40 CFR 60.110b(b), the requirements of 40 CFR Part 60, Subpart Kb do not apply.
- (c) 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 one (1) 25,000 gallon (95 cubic meters) fuel storage tank, although construction will be commenced after July 23, 1984. Pursuant to 40 CFR 60.110b(4), petroleum or condensate storage tanks with design capacity of less than 1,589.874 cubic meters are exempt from this subpart.
- (d) This hot mix asphalt plant is not subject to 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, and pursuant to 40 CFR 60.670(b), is exempt from the requirements of 40 CFR 60, Subpart OOO.
- (e) 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 the proposed hot mix asphalt plant does not meet the definition of an asphalt processing plant because it does not blow asphalt, and does not meet the definition of an asphalt roofing plant because it does not produce asphalt roofing products.
- (f) The two (2) generators, Genset 1 and Genset 2, at this facility are not subject to the New Source Performance Standards for Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart IIII (326 IAC 12) because these generators are non-road engines as defined under 40 CFR 1068.30.
- (g) There are no other New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (h) The two (2) generators, Genset 1 and Genset 2, which are diesel fired RICE, are not subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ) because these units are non-road engines as defined under 40 CFR 1068.30.

- (i) The requirements of the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63, Subpart DDDDD (326 IAC 20), are not included in the permit for the hot oil heater, because this source is an area source for HAPs.
- (j) The requirements of the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ (326 IAC 20), are not included in the permit for the hot oil heater, because process heaters are excluded from the definition of boiler under 40 CFR 63.11237.
- (k) The requirements of the National Emission Standards for Hazardous Air Pollutants for Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart LLLLL (326 IAC 20), are not included in the permit, because this source is not a major source for HAPs.
- (l) The requirements of the National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart AAAAAA (326 IAC 20), are not included in the permit because pursuant to 40 CFR 63.11559(c), this subpart is not applicable to hot mix asphalt plant operations that are used for the paving of roads.
- (m) There are no 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)

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

State Rule Applicability Determination

- (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)
Emission Offset 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 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)
Since this source may be relocated to Lake, Porter or LaPorte Counties, and has actual emissions of NOx and VOC greater than or equal to twenty-five (25) tons per year, an emission statement covering the previous calendar year must be submitted by July 1 of each year, when located in Lake, Porter, or LaPorte Counties. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

- (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 located in any of the following areas:
 - (a) Clark County, Jeffersonville Township.
 - (b) Dearborn County, Lawrenceburg Township.
 - (c) Dubois County, Bainbridge Township.
 - (d) Lake County, an area bounded on the north by Lake Michigan, on the west by the Indiana-Illinois state line, on the south by U.S. 30 from the state line to the intersection of I-65 to the intersection of I-94 then following I-94 to the Lake-Porter county line, and on the east by the Lake-Porter county line.
 - (e) 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.
 - (f) St. Joseph County, the area north of Kern Road and east of Pine Road.
 - (g) Vanderburgh County, the area included in the city of Evansville and Pigeon Township.
 - (h) Vigo County, the area within a five-tenths (0.5) kilometer radius circle centered at UTM Coordinates Zone 16 East four hundred sixty-four and fifty-two hundredths (464.52) kilometers North four thousand three hundred sixty-nine and twenty-one hundredths (4,369.21) kilometers.
 - (3) 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 located in Lake County.
 - (4) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (g) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
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 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 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 February 15, 2016, which is included as Attachment A to the permit.

- (i) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
Pursuant to 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the dryer/mixer, hot oil heater, and all emission units comprising the material handling, screening, and conveying systems, each, 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.
- (j) 326 IAC 6.8-8 (Lake County: Continuous Compliance Plan)
Pursuant to 326 IAC 6.8-8-1(18)(C), when located in Lake County, the Permittee shall submit to IDEM, and maintain at the source, a copy of the Continuous Compliance Plan. The Permittee shall perform the inspections, monitoring, and record keeping requirements as specified in 326 IAC 6.8-8-7. The Permittee shall update the CCP (as needed), retain a copy on site, and make the updated CCP available for inspection as specified in 326 IAC 6.8-8-8.
- (k) 326 IAC 6.8-10 (Lake County: Fugitive Particulate Matter)
When located in Lake County, the source is subject to the requirements of 326 IAC 6.8-10, because the Material Processing and Handling, Material Crushing, Screening, and Conveying, and Unpaved and Paved Roads have potential fugitive particulate emissions greater than 5 tons per year.

Pursuant to 326 IAC 6.8-10-3, the particulate matter emissions from source wide activities shall meet the following requirements:

- (1) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).
- (2) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).
- (3) The opacity of fugitive particulate emissions from exposed areas shall not exceed ten percent (10%) on a six (6) minute average.
- (4) 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.
- (5) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.
- (6) 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.
- (7) 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%).
- (8) Material processing facilities shall include the following:
 - (A) 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.
 - (B) The PM10 emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

- (C) The PM10 stack emissions from a material processing facility shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
 - (D) The opacity of fugitive particulate emissions from the material processing facilities, except a crusher at which a capture system is not used, shall not exceed ten percent (10%) opacity.
 - (E) The opacity of fugitive particulate emissions from a crusher at which a capture system is not used shall not exceed fifteen percent (15%).
- (9) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).
- (10) Material transfer limits shall be as follows:
- (A) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).
 - (B) Where adequate wetting of the material for fugitive particulate emissions control is prohibitive to further processing or reuse of the material, the opacity shall not exceed ten percent (10%), three (3) minute average.
 - (C) Slag and kish handling activities at integrated iron and steel plants shall comply with the following particulate emissions limits:
 - (i) 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.
 - (ii) 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).
- (11) 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 Fugitive Dust Control Plan, which is included as Attachment A to the permit.

- (l) 326 IAC 6.8-11 (Lake County - Particulate Matter Contingency Measures)
This portable source is authorized to relocate to Lake County. Although it is not specifically listed in 326 IAC 6.8-2, it consists of sources of fugitive particulate emissions to which 326 IAC 6.8-10-1(a) applies and has the potential to emit PM10 equal to or greater than ten (10) tons per year. Therefore, the source shall comply with the requirements of 326 IAC 6.8-11-2 through 326 IAC 6.8-11-6 when operating in Lake County.
- (m) 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)
This rule shall apply to stationary sources located in Lake, Porter, Clark, or Floyd County that emit or have the potential to emit volatile organic compounds (VOCs) at levels equal to or greater than twenty-five (25) tons per year (tpy) in Lake and Porter Counties and one hundred (100) tpy in Clark and Floyd Counties.

The proposed hot-mix asphalt plant is a portable source; therefore, 326 IAC 8-7 does not apply.

- (n) 326 IAC 8-6-1 (Organic Solvent Emission Limitations)
The requirements of 326 IAC 8-6-1 apply to sources commencing operation after October 7, 1974, and prior to January 1, 1980, located anywhere in the state, with potential emissions of 90.7 megagrams (100 tons) or greater per year of VOC, not limited by other rules in this article (326 IAC 8). This source is scheduled to be constructed in 2016. Therefore, the requirements of 326 IAC 8-6-1 are not applicable.
- (o) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.
- (p) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

Dryer/Mixer

- (a) 326 IAC 7 (Sulfur Dioxide)

Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), the Permittee shall comply with the following:
 - (1) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed five tenths (0.5) pounds per MMBtu when using distillate oil.
 - (2) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed one and six tenths (1.6) pounds per MMBtu heat input when using residual oil.
 - (3) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.
- (b) 326 IAC 8-5-2 (Asphalt Paving Rules)
This asphalt paving company, to be constructed after January 1, 1980, is not subject to 326 IAC 8-5-2 because this facility will not produce cold mix asphalt.
- (c) 326 IAC 8-1-6 (New Facilities; General Reduction Requirements)
The new hot-mix mixer/dryer has a potential to emit VOC emissions of greater than twenty-five (25) tons per year. However, the source has agreed to the following emission limits:
 - (a) The amount of asphalt processed shall not exceed 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (b) The VOC emissions from the dryer/mixer shall not exceed 0.032 lb/ton of asphalt produced.
Compliance with these limits shall limit the VOC emissions from the dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) not applicable.
- (d) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
When located in a county not subject to 326 IAC 6.5 or 326 IAC 6.8, pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the dryer/mixer shall not exceed pounds 66.31 pounds per hour when operating at a process weight rate of 400 tons (800,000 pounds) per hour. The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

The baghouse shall be in operation at all times when the dryer/mixer is in operation, in order to comply with this limit.

Screening Operation

- (a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
When located in a county not subject to 326 IAC 6.5 or 326 IAC 6.8, pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the screening operation shall not exceed pounds 66.31 pounds per hour when operating at a process weight rate of 400 tons (800,000 pounds) per hour. The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Based on calculations, a control device is not needed to comply with this limit.

Storage Tanks

- (a) 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)
The storage tanks at this facility are not subject to the requirements of 326 IAC 8-4-3 because they have capacities less than thirty-nine thousand (39,000) gallons.
- (b) 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)
This portable source can relocate to Clark, Floyd, Lake or Porter Counties and the three (3) storage tanks each has a capacity of less than thirty-nine thousand (39,000) gallons. Pursuant to 326 IAC 8-9-1(b), the storage tanks 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, Floyd, Lake, or Porter Counties.

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 when the source is located in Clark, Floyd, Lake, or Porter 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.

Hot Oil Heater

- (a) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
 The hot oil heater is an emission unit that meets the definition of a source of indirect heating. Pursuant to 326 IAC 6-2-1(d), the hot oil heater shall be limited by 326 IAC 6-2-4, when located in a county not subject to 326 IAC 6.5 or 326 IAC 6.8. Pursuant to 326 IAC 6-2-4, with a source maximum operating capacity below 10 MMBtu/hr, the PM emissions shall not exceed 0.6 lb/MMBtu.
- (b) 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)The hot oil heater has a potential to emit of SO2 of less than twenty-five (25) tons per year and ten (10) pounds per hour of sulfur dioxide. Therefore, the requirements of 326 IAC 7-1.1 are not applicable.

Compliance Determination, Monitoring and Testing Requirements
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The compliance determination requirements (summary) applicable to this source are as follows:

- (a) The baghouse for particulate control shall be in operation and control particulate matter emissions from the dryer/mixer at all times when the dryer/mixer is in operation.
- (b) Compliance with SO2, lead, chlorine, ash, and asbestos limitations shall be demonstrated based on vendor analysis of fuels, slag, and shingles delivered.
- (c) The testing requirements applicable to this source are as follows:

Emission Unit	Control Device	Pollutant	Timeframe for Testing	Frequency of Testing
Dryer/mixer	Baghouse	PM, PM10, PM2.5	Within 60 days of reaching maximum capacity but not later than 180 days after initial start-up	Once every five (5) years

- (d) The compliance monitoring requirements applicable to this source are as follows:

Emissions Unit	Control	Parameter	Range	Frequency	Excursions and Exceedances
Dryer/Mixer	Baghouse (Stack EV1)	Visible Emissions	Normal-Abnormal	Daily	Response Steps
Conveyors, Screens, Material Transfer Points, Crusher	N/A	Visible Emissions	Normal-Abnormal		

These monitoring conditions are necessary because the baghouse used in conjunction with the hot-mix dryer/mixer must operate properly to ensure continued compliance with 40 CFR 60, Subpart I, 326 IAC 2-8 (FESOP), 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), 326 IAC 6.5 (Particulate Matter Limitations Except Lake County), 326 IAC 6.8 (Particulate Matter Limitations for Lake County), and the limits that render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permits) not applicable.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on February 2, 2016.

The construction and operation of this source shall be subject to the conditions of the attached proposed New Source Construction and FESOP No. F141-36797-05408. 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 Madhurima Moulik 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) 233-0868 or toll free at 1-800-451-6027 extension 3-0868.
- (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 Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

Asphalt Plant Maximum Capacity - Drum Mix

Maximum Hourly Asphalt Production =	400	ton/hr								
Maximum Annual Asphalt Production =	3,504,000	ton/yr								
Maximum Annual Blast Furnace Slag Usage =	1,471,680	ton/yr	1.5	% sulfur						
Maximum Annual Steel Slag Usage =	1,471,680	ton/yr	0.66	% 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	0.00	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0.00	% 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	0.70	% ash	0.400	% chlorine,	0.001	% lead
Diesel Fuel Usage - Generator < 600 HP =	0	gal/yr, and								
Diesel Fuel Usage - Generator > 600 HP =	0	gal/yr, and	0.50	% sulfur						
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production								
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production								
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production								
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production								
Unlimited CO Dryer/Mixer Emission Factor =	0.13	lb/ton of asphalt production								
Unlimited Blast Furnace Slag SO2 Dryer/Mixer Emission Factor =	0.74	lb/ton of slag processed								
Unlimited Steel Slag SO2 Dryer/Mixer Emission Factor =	0.0014	lb/ton of slag processed								

Unlimited/Uncontrolled Emissions

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)								
	Criteria Pollutants						Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP
Ducted Emissions									
Dryer Fuel Combustion (worst case)	140.16	111.69	111.69	459.90	147.04	4.95	37.77	84.87	82.59 (hydrogen chloride)
Dryer/Mixer (Process)	49,056.00	11,388.00	2,628.00	101.62	96.36	56.06	227.76	18.68	5.43 (formaldehyde)
Dryer/Mixer Slag Processing (worst case)	0	0	0	544.52	0	0	0	0	0
Hot Oil Heater Fuel Combustion/Process (worst case)	2.10	1.68	1.68	3.33	0.94	0.07	0.55	1.269	1.24 (hydrogen chloride)
Diesel-Fired Generator < 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000
Diesel-Fired Generator > 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000
Worst Case Emissions*	49,058.10	11,389.68	2,629.68	1,007.75	147.99	56.14	228.31	86.14	83.83 (hydrogen chloride)
Fugitive Emissions									
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	1.04	0.36	0.36	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)	238.96	60.90	6.09	0	0	0	0	0	0
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
Total Fugitive Emissions	308.84	88.86	29.51	0.00	0.00	30.01	5.05	0.50	0.00 (xylenes)
Totals Unlimited/Uncontrolled PTE	49,366.94	11,478.54	2,659.19	1,007.75	147.99	86.15	233.36	86.64	83.83 (hydrogen chloride)

negl = negligible

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

*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Worst Case Emissions From Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion and Hot Oil Heating System + Diesel-Fired Generator < 600 HP + Diesel-Fired Generator > 600 HP

Fuel component percentages provided by the source.

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

Maximum Capacity

Maximum Fuel Input Rate =	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
	0.00	% sulfur
	0.20	gr/100 ft3 sulfur
	0.22	gr/100 ft3 sulfur
	1.00	% sulfur
	0.70	% ash
	0.400	% chlorine
	0.001	% lead

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Fuel Oil (tons/yr)	Worst Case Fuel (tons/yr)
PM	1.9	2.0	7.0	3.22	0.5	0.6	44.8	0.83	6.26	21.90	0.00	2.420	2.698	140.16	140.16
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	35.7	3.33	10.32	25.97	0.00	2.420	2.698	111.69	111.69
SO2	0.6	71.0	75.0	0.0	0.020	0.020	147.0	0.26	222.13	234.64	0.00	0.097	0.089	459.90	459.90
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	147.04
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	4.95
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	37.77
Hazardous Air Pollutant															
HCl							26.4							82.59	82.59
Antimony				5.25E-03			negl			1.64E-02	0.00E+00			negl	1.6E-02
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	3.4E-01
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	5.3E-06	1.31E-03	8.70E-05	0.00E+00			negl	1.3E-03
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	4.8E-04	1.31E-03	1.25E-03	0.00E+00			2.91E-02	2.9E-02
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			6.29E-02	6.3E-02
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	3.7E-05		1.88E-02	0.00E+00			6.57E-04	1.9E-02
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.055	2.2E-04	3.94E-03	4.72E-03	0.00E+00			1.7E-01	0.17
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	0.21
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				1.3E-03
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	0.264
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	6.6E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						7.38E-04	0.00E+00				7.4E-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		6.70E-04	0.00E+00				9.2E-04
Bis(2-ethylhexyl)phthalate								2.2E-03						6.88E-03	6.9E-03
Dichlorobenzene	1.2E-03							8.0E-07	5.3E-04					2.50E-06	5.3E-04
Ethylbenzene			6.36E-05	6.36E-05						1.99E-04	0.00E+00				2.0E-04
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				0.191
Hexane	1.8E+00							0.79							0.788
Phenol								2.4E-03						7.51E-03	7.5E-03
Toluene	3.4E-03		6.20E-03	6.20E-03				1.5E-03		1.94E-02	0.00E+00				1.9E-02
Total PAH Haps	negl		1.13E-03	1.13E-03				3.9E-02	negl	3.54E-03	0.00E+00			1.22E-01	1.2E-01
Polycyclic Organic Matter		3.30E-03								1.03E-02					1.0E-02
Xylene			1.09E-04	1.09E-04						3.41E-04	0.00E+00				3.4E-04
Total HAPs							0.83	0.22	0.45	0.00	0	0	83.59	84.87	

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

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: Unlimited Emissions Calculations
Dryer/Mixer - Process Emissions**

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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

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

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worst 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
Hazardous Air Pollutant							
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	0.05
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

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

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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

Maximum Annual Blast Furnace Slag Usage =

1,471,680

 ton/yr

1.5

 % sulfur
Maximum Annual Steel Slag Usage =

1,471,680

 ton/yr

0.66

 % sulfur

Type of Slag	SO ₂ Emission Factor (lb/ton)	Unlimited Potential to Emit SO ₂ (tons/yr)
Blast Furnace Slag*	0.74	544.5
Steel Slag**	0.0014	1.03

Methodology

The maximum annual slag usage was provided by the source.

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

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

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

Abbreviations

SO₂ = Sulfur Dioxide

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

Company Name: Rieth Riley Construction Co., Inc.
Source Location: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

Maximum Hot Oil Heater Fuel Input Rate = 1.50 MMBtu/hr
 Natural Gas Usage = 13.14 MMCF/yr
 No. 2 Fuel Oil Usage = 83,857 gal/yr, and 0.50 % sulfur
 Waste Oil = 83,857 gal/yr, and 0.50 % sulfur 0.70 % ash 0.400 % chlorine, 0.001 % lead
 Propane = 145,193 gal/yr, and 0.20 gr/100 ft3 sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)				Unlimited/Uncontrolled Potential to Emit (tons/yr)				Worst Case Fuel (tons/yr)
	Hot Oil Heater				Hot Oil Heater				
	Propane (lb/kgal)	Waste Oil (lb/kgal)	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Propane (tons/yr)	Waste Oil (tons/yr)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	0.5	44.8	1.9	2.0	0.036	2.102	0.012	0.094	2.10
PM10/PM2.5	0.5	35.7	7.6	3.3	0.036	1.675	0.050	0.155	1.68
SO2	0.020	58.8	0.6	71.0	0.001	2.759	0.004	3.332	3.33
NOx	13.0	19.0	100	20.0	0.944	0.892	0.657	0.939	0.94
VOC	1.00	1.0	5.5	0.20	0.073	0.047	0.036	0.009	0.07
CO	7.5	5.0	84	5.0	0.544	0.235	0.552	0.235	0.55
Hazardous Air Pollutant									
HCl		26.4				1.24			1.24
Arsenic		0.11	2.0E-04	5.6E-04		5.16E-03	1.3E-06	2.63E-05	0.01
Beryllium			1.2E-05	4.2E-04		7.9E-08	1.97E-05	1.97E-05	1.97E-05
Cadmium		9.3E-03	1.1E-03	4.2E-04		4.36E-04	7.2E-06	1.97E-05	4.36E-04
Chromium		0.02	1.4E-03	4.2E-04		9.39E-04	9.2E-06	1.97E-05	9.39E-04
Cobalt		2.1E-04	8.4E-05			9.86E-06	5.5E-07		9.86E-06
Lead		0.055	8.0E-04	1.3E-03		2.58E-03	3.3E-06	5.91E-05	2.58E-03
Manganese		0.07	3.8E-04	8.4E-04		3.19E-03	2.5E-06	3.94E-05	3.19E-03
Mercury			2.6E-04	4.2E-04		1.7E-06	1.97E-05	1.97E-05	1.97E-05
Nickel		0.01	2.1E-03	4.2E-04		5.16E-04	1.4E-05	1.97E-05	5.16E-04
Selenium			2.4E-05	2.1E-03		1.6E-07	9.86E-06		9.86E-06
Benzene			2.1E-03				1.4E-05		1.38E-05
Dichlorobenzene		8.0E-07	1.2E-03			3.75E-08	7.9E-06		7.88E-06
Ethylbenzene									0.00
Formaldehyde			0.08	0.06			4.9E-04	2.86E-03	2.86E-03
Hexane			1.80				0.01		0.01
Phenol		2.4E-03				1.13E-04			1.13E-04
Toluene			3.4E-03				2.2E-05		2.23E-05
Total PAH Haps		0.04				1.83E-03			1.83E-03
Polycyclic Organic Matter				3.30E-03				1.55E-04	1.55E-04
Total HAPs =					0.00E+00	1.25	0.01	3.34E-03	1.27
Worst Single HAP =					0.00E+00	1.24	0.01	2.86E-03	1.24
						(HCl)	(Formaldehyde)	(Hexane)	HCl

Methodology

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
 Sources of AP-42 Emission Factors for fuel combustion:
 Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
 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

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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

Maximum Fuel Input Rate To Hot Oil Heater =	1.50	MMBtu/hr
Natural Gas Usage =	13.14	MMCF/yr, and
No. 2 Fuel Oil Usage =	93,857.14	gal/yr
Waste Oil =	93,857.14	gal/yr
Propane =	145,193.37	gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE	
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil		
VOC	2.60E-08	2.65E-05	1.71E-04	0.001		0.001
CO	8.90E-06	0.0012	0.058	0.056		0.058
Hazardous Air Pollutant						
Formaldehyde	2.60E-08	3.50E-06	1.71E-04	1.64E-04		1.71E-04
Acenaphthene		5.30E-07		2.49E-05		2.49E-05
Acenaphthylene		2.00E-07		9.39E-06		9.39E-06
Anthracene		1.80E-07		8.45E-06		8.45E-06
Benzo(b)fluoranthene		1.00E-07		4.69E-06		4.69E-06
Fluoranthene		4.40E-08		2.06E-06		2.06E-06
Fluorene		3.20E-08		1.50E-06		1.50E-06
Naphthalene		1.70E-05		7.98E-04		7.98E-04
Phenanthrene		4.90E-06		2.30E-04		2.30E-04
Pyrene		3.20E-08		1.50E-06		1.50E-06
			Total HAPs	1.25E-03		
			Worst Single HAP	7.98E-04		(Naphthalene)

Methodology

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

No. 2 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Natural Gas: Potential to Emit (tons/yr) = (Natural Gas Usage (MMCF/yr))*(Emission Factor (lb/CF))*(1000000 CF/MMCF)*(ton/2000 lbs)

No. 2 Fuel Oil: Potential to Emit (tons/yr) = (No. 2 Fuel Oil Usage (gals/yr))*(Emission Factor (lb/gal))*(ton/2000 lbs)

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Table 11.1-13

Abbreviations

CO = Carbon Monoxide

VOC = Volatile Organic Compound

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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

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

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

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

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

Hazardous Air Pollutants (HAPs)

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

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

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

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

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

Methodology

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

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

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

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

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

Output Horsepower Rating (hp)	0.0	Sulfur Content (S) of Fuel (% by weight)	0.50
Maximum Hours Operated per Year	0		
Potential Throughput (hp-hr/yr)	0		
Maximum Diesel Fuel Usage (gal/yr)	0		

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

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

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

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

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

Hazardous Air Pollutants (HAPs)

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

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

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

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

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

Methodology

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
 Maximum Diesel Fuel Usage (gal/yr) = Potential Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)
 Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 and have been converted to lb/kgal.
 Potential Emissions (tons/yr) = [Maximum Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 ga/kgal) / (2,000 lb/ton)

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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)

PM/HAPs	0.042	0.050	0	0.093
VOC/HAPs	0.108	0.272	0.028	0.408
non-VOC/HAPs	5.6E-04	5.8E-05	1.5E-04	7.7E-04
non-VOC/non-HAPs	0.53	0.30	0.14	0.97

Total VOCs	6.85	21.35	1.8	30.0
Total HAPs	0.15	0.32	0.029	0.50
		Worst Single HAP		0.155
				(formaldehyde)

Methodology

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

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

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

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

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

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

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

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

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

Abbreviations

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

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	1.6E-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
Total PAH HAPs							0.035	0.050	NA	0.086
Other semi-volatile HAPs										
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: Unlimited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

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Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	6.85	21.35	1.81	30.01
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
Total non-VOC/non-HAPS					7.30%	1.40%	0.532	0.299	0.141	0.97
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
Total volatile organic HAPs					1.50%	1.30%	0.109	0.278	0.029	0.416

Methodology

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

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

Abbreviations

TOC = Total Organic Compounds

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

MTBE = Methyl tert butyl ether

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.00	0.000	0.000
Limestone	1.6	1.85	0.00	0.000	0.000
RAP	0.5	0.58	4.90	0.518	0.181
Gravel	1.6	1.85	0.00	0.000	0.000
Shingles	0.5	0.58	4.90	0.518	0.181
Slag	3.8	4.40	0.00	0.000	0.000
Totals				1.04	0.36

Methodology

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

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

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

**Maximum anticipated pile size (acres) provided by the source.

PM2.5 = PM10

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

RAP = Recycled Asphalt Pavement

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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

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

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

where: E_f = Emission factor (lb/ton)

k (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U =	10.2	= worst case annual mean wind speed (Source: NOAA, 2006*)
M =	4.0	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
E_f (PM) =	2.27E-03	lb PM/ton of material handled
E_f (PM10) =	1.07E-03	lb PM10/ton of material handled
E_f (PM2.5) =	1.62E-04	lb PM2.5/ton of material handled

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

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

Methodology

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

Material Screening and Conveying (AP-42 Section 11.19.2)

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	8.99	3.99
Screening	0.025	0.0087	41.61	14.48
Conveying	0.003	0.0011	4.99	1.83
Unlimited Potential to Emit (tons/yr) =			55.59	20.31

Methodology

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

Abbreviations

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

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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	31	1.5E+05	4.6E+06	581	0.110	16352.4
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	20.0	1.5E+05	3.0E+06	581	0.110	16352.4
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	4.9E+03	2.3E+05	581	0.110	535.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	4.9E+03	5.8E+04	581	0.110	535.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	6.6E+02	2.9E+04	581	0.110	72.7
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	6.6E+02	7.9E+03	581	0.110	72.7
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	7.9E+05	1.5E+07	581	0.110	87212.9
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	7.9E+05	1.2E+07	581	0.110	87212.9
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.5E+05	6.0E+06	581	0.110	16065.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	581	0.110	16065.5
Total					2.2E+06	4.3E+07			2.4E+05

Average Vehicle Weight Per Trip =	19.9	tons/trip
Average Miles Per Trip =	0.110	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 =	19.9	19.9	19.9	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f =	6.04	1.54	0.15	lb/mile
Mitigated Emission Factor, E_{ext} =	3.97	1.01	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)	49.42	12.60	1.26	32.50	8.28	0.83	16.25	4.14	0.41
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	49.42	12.60	1.26	32.50	8.28	0.83	16.25	4.14	0.41
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	1.619	0.413	0.04	1.064	0.271	0.03	0.532	0.136	0.01
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	1.619	0.413	0.04	1.064	0.271	0.03	0.532	0.136	0.01
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.220	0.056	0.01	0.145	0.037	0.00	0.072	0.018	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.220	0.056	0.01	0.145	0.037	0.00	0.072	0.018	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	263.59	67.18	6.72	173.32	44.17	4.42	86.66	22.09	2.21
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	263.59	67.18	6.72	173.32	44.17	4.42	86.66	22.09	2.21
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	48.56	12.38	1.24	31.93	8.14	0.81	15.96	4.07	0.41
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	48.56	12.38	1.24	31.93	8.14	0.81	15.96	4.07	0.41
Totals		726.82	185.24	18.52	477.91	121.80	12.18	238.96	60.90	6.09

Methodology

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

Abbreviations

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

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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/day)	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	581	0.110	16352.4
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	581	0.110	16352.4
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	4.9E+03	2.3E+05	581	0.110	535.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	4.9E+03	5.8E+04	581	0.110	535.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	6.6E+02	2.9E+04	581	0.110	72.7
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	6.6E+02	7.9E+03	581	0.110	72.7
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	7.9E+05	1.5E+07	581	0.110	87212.9
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	7.9E+05	1.2E+07	581	0.110	87212.9
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	1.5E+05	6.0E+06	581	0.110	16065.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	581	0.110	16065.5
Total					2.2E+06	4.4E+07			2.4E+05

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.110	miles/trip

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

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = 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

Unmitigated Emission Factor, Ef =	0.15	0.03	0.01	lb/mile
Mitigated Emission Factor, Eext =	0.14	0.03	0.01	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	1.22	0.24	0.06	1.11	0.22	0.05	0.56	0.11	0.03
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	1.22	0.24	0.06	1.11	0.22	0.05	0.56	0.11	0.03
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.040	0.008	2.0E-03	0.036	0.007	1.8E-03	0.018	3.6E-03	8.9E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.040	0.008	2.0E-03	0.036	0.007	1.8E-03	0.018	3.6E-03	8.9E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	5.4E-03	1.1E-03	2.7E-04	4.9E-03	9.9E-04	2.4E-04	2.5E-03	4.9E-04	1.2E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	5.4E-03	1.1E-03	2.7E-04	4.9E-03	9.9E-04	2.4E-04	2.5E-03	4.9E-04	1.2E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	6.49	1.30	0.32	5.93	1.19	0.29	2.96	0.59	0.15
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	6.49	1.30	0.32	5.93	1.19	0.29	2.96	0.59	0.15
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	1.19	0.24	0.06	1.09	0.22	0.05	0.55	0.11	0.03
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	1.19	0.24	0.06	1.09	0.22	0.05	0.55	0.11	0.03
Totals		17.88	3.58	0.88	16.35	3.27	0.80	8.18	1.64	0.40

Methodology

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

Abbreviations

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

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

Company Name: Rieth Riley Construction Co., Inc.
 Source Address: 4150 Mayflower Road, South Bend, IN 46628
 Permit Number: F141-36797-05408
 Reviewer: Madhurima Moulik

Asphalt Plant Limitations - Drum Mix

Maximum Hourly Asphalt Production =	400	ton/hr								
Annual Asphalt Production Limitation =	1,000,000	ton/yr								
Blast Furnace Slag Usage =	1,471,680	ton/yr	1.50	% sulfur						
Steel Slag Usage =	1,471,680	ton/yr	0.66	% sulfur						
Maximum Dryer Fuel Input Rate =	100	MMBtu/hr								
Natural Gas Limitation =	876.00	MMCF/yr								
No. 2 Fuel Oil Limitation =	2,788,732	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Limitation =	2,640,000	gal/yr, and	0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur						
Propane Limitation =	9,679,558	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Limitation =	8,993,840	gal/yr, and	0.22	gr/100 ft3 sulfur						
Used/Waste Oil Limitation* =	750,000	gal/yr, and	1.00	% sulfur	0.70	% ash	0.400	% chlorine,	0.001	% lead
Diesel Fuel Limitation - Generator < 600 HP =	0	gal/yr, and								
Diesel Fuel Limitation - Generator > 600 HP =	0	gal/yr	0.50	% sulfur						

*Used/waste oil limitation for single HAP (HCl) to be limited to <9.9 tpy; Buffer for the HOH which is also capable of burning used/waste oil.

PM Dryer/Mixer Limitation =	0.315	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.143	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.177	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 Limitation =	0.0	tons/yr
HCl Limitation =	26.4	lb/kgal

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP	
Ducted Emissions										
Dryer Fuel Combustion (worst case)	16.80	13.39	13.39			4.95	37.77	11.03	9.90	(hydrogen chloride)
Dryer/Mixer (Process)	157.43	71.55	88.63			16.00	65.00	5.33	1.55	(formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	99.00	99.00	0	0	0	0	
Hot Oil Heater Fuel Combustion/Process (worst case)	2.10	1.68	1.68			0.07	0.55	1.27	**	(hydrogen chloride)
Diesel-Fired Generator < 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000	
Diesel-Fired Generator > 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
Worst Case Emissions*	159.53	73.23	90.30	99.00	99.00	16.07	65.55	12.30	9.90	(hydrogen chloride)
Fugitive Emissions										
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	1.04	0.36	0.36	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)	68.79	17.53	1.75	0	0	0	0	0	0	
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	0.00	0	0.00	0.00	
Total Fugitive Emissions	89.47	25.77	8.70	0	0	8.57	1.44	0.14	0.04	(formaldehyde)
Totals Limited/Controlled Emissions	249.00	99.00	99.00	99.00	99.00	24.64	66.99	12.45	9.90	(hydrogen chloride)

negl = negligible

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

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

** Source-wide waste oil usage is limited to 750,000 gallons per twelve (12) consecutive month period and HCl emissions shall not exceed 0.0264 pounds of HCl per gallon, which is equivalent to a source-wide HCl emission limit of 9.90 tons per twelve (12) consecutive month period.

Appendix A.2: Limited Emissions Summary
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/hr

Company Name: **Rieth Riley Construction Co., Inc.**
 Source Address: **4150 Mayflower Road, South Bend, IN 46628**
 Permit Number: **F141-36797-05408**
 Reviewer: **Madhurima Moulik**

The following calculations determine the limited emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

Fuel Limitations

Maximum Fuel Input Rate =	100	MMBtu/hr
Natural Gas Limitation =	876	MMCF/yr
No. 2 Fuel Oil Limitation =	2,788,732	gal/yr, and
No. 4 Fuel Oil Limitation =	2,640,000	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and
Propane Limitation =	9,679,558	gal/yr, and
Butane Limitation =	8,993,840	gal/yr, and
Used/Waste Oil Limitation =	750,000	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
		0.70 % ash
		0.400 % chlorine
		0.001 % lead

Limited Emissions

Criteria Pollutant	Emission Factor (units)								Limited Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual 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 Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2	7	7.815	0.5	0.6	44.8		0.83	2.79	9.24	0.00	2.420	2.698	16.80	16.80
PM10/PM2.5	7.6	3.3	8.3	9.315	0.5	0.6	35.7		3.33	4.60	10.96	0.00	2.420	2.698	13.39	13.39
SO2	0.6	71.0	75.0	78.5	0.020	0.020	147.0		0.26	99.00	99.00	0.00	0.097	0.089	55.13	99.00
NOx	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	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	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
Hazardous Air Pollutant																
HCl							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			0.055	2.2E-04	1.76E-03	1.99E-03	0.00E+00			2.1E-02	0.02	
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	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	
Total HAPs									0.83	0.10	0.19	0.00	0	0	10.02	11.03

Methodology

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
 Sources of AP-42 Emission Factors for fuel combustion:
 Natural Gas: AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-4, 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 = Nitrogen Oxides
 VOC = Volatile Organic Compounds
 CO = Carbon Monoxide
 HAP = Hazardous Air Pollutant
 HCl = Hydrogen Chloride
 PAH = Polycyclic Aromatic Hydrocarbon

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

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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 =	0.315	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.143	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.177	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)			Worst 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*	0.315	0.315	0.315	157.4	157.4	157.4	157.4
PM10*	0.143	0.143	0.143	71.6	71.6	71.6	71.6
PM2.5*	0.177	0.177	0.177	88.6	88.6	88.6	88.6
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
Hazardous Air Pollutant							
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
Total HAPs							5.33
Worst Single HAP							1.55 (formaldehyde)

Methodology

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

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-4, 11.1-7, 11.1-8, 11.1-10, and 11.1-12

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

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

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

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

Abbreviations

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

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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

Limited Blast Furnace Slag Usage =

1,471,680

 ton/yr

1.50

 % sulfur
 Limited Annual Steel Slag Usage =

1,471,680

 ton/yr

0.66

 % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Limited Potential to Emit SO2 (tons/yr)***
Blast Furnace Slag*	0.7400	99.00
Steel Slag**	0.0014	

Methodology

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

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

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

***Source-wide SO2 emissions are limited to less than 99.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Abbreviations

SO2 = Sulfur Dioxide

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

Company Name: Rieth Riley Construction Co., Inc.
Source Location: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

Maximum Hot Oil Heater Fuel Input Rate = 1.50 MMBtu/hr
 Natural Gas Usage = 13 MMCF/yr
 No. 2 Fuel Oil Usage = 93.857 gal/yr, and 0.50 % sulfur
 Waste Oil = 93.857 gal/yr 0.50 % sulfur 0.70 % ash 0.400 % chlorine, 0.001 % lead
 Propane = 145.193 gal/yr 0.20 gr/100 ft3 sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units) Hot Oil Heater				Unlimited/Uncontrolled Potential to Emit (tons/yr) Hot Oil Heater				Worst Case Fuel (tons/yr)
	Propane (lb/kgal)	Waste Oil (lb/kgal)	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Propane (tons/yr)	Waste Oil (tons/yr)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	0.5	44.8	1.9	2.0	0.036	2.10	0.012	0.094	2.10
PM10/PM2.5	0.5	35.7	7.6	3.3	0.036	1.68	0.050	0.155	1.68
SO2	0.020	58.8	0.6	71.0	0.001	2.76	0.004	3.332	3.33
NOx	13.0	19.0	100	20.0	0.944	0.89	0.657	0.939	0.94
VOC	1.00	1.0	5.5	0.20	0.073	0.05	0.036	0.009	0.07
CO	7.5	5.0	84	5.0	0.544	0.23	0.552	0.235	0.55
Hazardous Air Pollutant									
HCl		26.4				1.24			1.24
Arsenic		1.1E-01	2.0E-04	5.6E-04		0.01	1.3E-06	2.63E-05	0.01
Beryllium			1.2E-05	4.2E-04			7.9E-08	1.97E-05	1.97E-05
Cadmium		9.3E-03	1.1E-03	4.2E-04		4.36E-04	7.2E-06	1.97E-05	4.36E-04
Chromium		2.0E-02	1.4E-03	4.2E-04		9.39E-04	9.2E-06	1.97E-05	9.39E-04
Cobalt		2.1E-04	8.4E-05			9.86E-06	5.5E-07		9.86E-06
Lead		0.055	5.0E-04	1.3E-03		2.58E-03	3.3E-06	5.91E-05	2.58E-03
Manganese		6.8E-02	3.8E-04	8.4E-04		3.19E-03	2.5E-06	3.94E-05	3.19E-03
Mercury			2.6E-04	4.2E-04			1.7E-06	1.97E-05	1.97E-05
Nickel		1.1E-02	2.1E-03	4.2E-04		5.16E-04	1.4E-05	1.97E-05	5.16E-04
Selenium			2.4E-05	2.1E-03			1.6E-07	9.86E-05	9.86E-05
Benzene			2.1E-03				1.4E-05		1.38E-05
Dichlorobenzene		8.0E-07	1.2E-03			3.75E-08	7.9E-06		7.88E-06
Ethylbenzene									0.00
Formaldehyde			0.08	0.06			4.9E-04	2.86E-03	2.86E-03
Hexane			1.80				0.01		0.01
Phenol		2.4E-03				1.13E-04			1.13E-04
Toluene			3.4E-03				2.2E-05		2.23E-05
Total PAH Haps		3.9E-02	negl			1.83E-03	negl		1.83E-03
Polycyclic Organic Matter				3.30E-03				1.55E-04	1.55E-04
Total HAPs =				0.00E+00	1.25	0.01	3.34E-03		1.27
Worst Single HAP =				0.0E+00	1.24	0.01	2.9E-03		1.24
					HCl	Hexane	Formaldehyde		HCl

Methodology

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
 Sources of AP-42 Emission Factors for fuel combustion:
 Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
 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

**Appendix A.2: Limited Emissions Summary
Hot Oil Heating System - Process Emissions**

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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

Maximum Fuel Input Rate To Hot Oil Heater = 1.50 MMBtu/hr
 Natural Gas Usage = 13.14 MMCF/yr, and
 No. 2 Fuel Oil Usage = 93,857.14 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	
VOC	2.60E-08	2.65E-05	1.71E-04	0.001	0.001
CO	8.90E-06	0.0012	0.058	0.056	0.058
Hazardous Air Pollutant					
Formaldehyde	2.60E-08	3.50E-06	1.71E-04	1.64E-04	1.71E-04
Acenaphthene		5.30E-07		2.49E-05	2.49E-05
Acenaphthylene		2.00E-07		9.39E-06	9.39E-06
Anthracene		1.80E-07		8.45E-06	8.45E-06
Benzo(b)fluoranthene		1.00E-07		4.69E-06	4.69E-06
Fluoranthene		4.40E-08		2.06E-06	2.06E-06
Fluorene		3.20E-08		1.50E-06	1.50E-06
Naphthalene		1.70E-05		7.98E-04	7.98E-04
Phenanthrene		4.90E-06		2.30E-04	2.30E-04
Pyrene		3.20E-08		1.50E-06	1.50E-06

Total HAPs 1.25E-03
Worst Single HAP 7.98E-04 (Naphthalene)

Methodology

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

Abbreviations

CO = Carbon Monoxide VOC = Volatile Organic Compound

Appendix A.2: Limited Emissions Summary
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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

	Pollutant						
	PM ²	PM10 ²	direct PM2.5 ²	SO ₂	NO _x	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Emission Factor in lb/kgal ¹	43.07	43.07	43.07	40.13	606.85	49.22	130.77
Limited Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

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

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

Hazardous Air Pollutants (HAPs)

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

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

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

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

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

Methodology

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

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

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

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

Appendix A.2: Limited Emissions Summary
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

Output Horsepower Rating (hp)	0.0	Sulfur Content (S) of Fuel (% by weight)	0.50
Limited Hours Operated per Year	0		
Limited Throughput (hp-hr/yr)	0		
Limited Diesel Fuel Usage (gal/yr)	0		

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

¹ The AP-42 Chapter 3.4-1 emission factors for PM10 and PM2.5 in lb/MMBtu were converted using an average brake specific fuel consumption of 7,000 Btu / hp-hr. Other pollutants were calculated based on lb/HP-hr AP-42 factors

²Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1)

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

Hazardous Air Pollutants (HAPs)

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

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

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

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

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

Methodology

Limited Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Limited Hours Operated per Year]
 Limited Diesel Fuel Usage (gal/yr) = Limited Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)
 Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 and have been converted to lb/kgal.
 Limited Emissions (tons/yr) = [Limited Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 ga/kgal) / (2,000 lb/ton)

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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)

PM/HAPs	0.012	0.014	0	0.027
VOC/HAPs	0.031	0.077	0.008	0.116
non-VOC/HAPs	1.6E-04	1.6E-05	4.2E-05	2.2E-04
non-VOC/non-HAPs	0.15	0.09	0.04	0.28

Total VOCs	1.95	6.09	0.5	8.6
Total HAPs	0.04	0.09	0.008	0.14
		Worst Single HAP		0.044
				(formaldehyde)

Methodology

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Abbreviations

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate

Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	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
Total PAH HAPs							0.010	0.014	NA	0.025
Other semi-volatile HAPs										
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: Limited Emissions Summary
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)
Limited Emissions

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Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	1.95	6.09	0.52	8.57
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
Total non-VOC/non-HAPS					7.30%	1.40%	0.152	0.085	0.040	0.28
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
Total volatile organic HAPs					1.50%	1.30%	0.031	0.079	0.008	0.119

Methodology

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

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

Abbreviations

TOC = Total Organic Compounds

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

MTBE = Methyl tert butyl ether

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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

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

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.00	0.000	0.000
Limestone	1.6	1.85	0.00	0.000	0.000
RAP	0.5	0.58	4.90	0.518	0.181
Gravel	1.6	1.85	0.00	0.000	0.000
Shingles	0.5	0.58	4.90	0.518	0.181
Slag	3.8	4.40	0.00	0.000	0.000
Totals				1.04	0.36

Methodology

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

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

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

**Maximum anticipated pile size (acres) provided by the source.

PM2.5 = PM10

Abbreviations

RAP = recycled asphalt pavement

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Mouluk

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.

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

where: E_f = Emission factor (lb/ton)

k (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U =	10.2	= worst case annual mean wind speed (Source: NOAA, 2006*)
M =	4.0	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
E_f (PM) =	2.27E-03	lb PM/ton of material handled
E_f (PM10) =	1.07E-03	lb PM10/ton of material handled
E_f (PM2.5) =	1.62E-04	lb PM2.5/ton of material handled

Annual Asphalt Production Limitation = 1,000,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 950,000 tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	1.08	0.51	0.08
Front-end loader dumping of materials into feeder bins	1.08	0.51	0.08
Conveyor dropping material into dryer/mixer or batch tower	1.08	0.51	0.08
Total (tons/yr)	3.23	1.53	0.23

Methodology

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

Material Screening and Conveying (AP-42 Section 19.2.2)

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	2.57	1.14
Screening	0.025	0.0087	11.88	4.13
Conveying	0.003	0.0011	1.43	0.52
Limited Potential to Emit (tons/yr) =			15.87	5.80

Methodology

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

Abbreviations

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

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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	581	0.110	4666.8
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.2E+05	581	0.110	4666.8
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.4E+03	6.7E+04	581	0.110	152.8
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.4E+03	1.7E+04	581	0.110	152.8
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.9E+02	1.3E+04	581	0.110	32.4
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.9E+02	3.5E+03	581	0.110	32.4
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	2.3E+05	4.3E+06	581	0.110	24889.5
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	2.3E+05	3.4E+06	581	0.110	24889.5
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	4.2E+04	1.7E+06	581	0.110	4584.9
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.1E+05	581	0.110	4584.9
Total					6.2E+05	1.3E+07			6.9E+04

Average Vehicle Weight Per Trip = 20.3 tons/trip
 Average Miles Per Trip = 0.110 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)	14.22	3.62	0.36	9.35	2.38	0.24	4.68	1.19	0.12
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	14.22	3.62	0.36	9.35	2.38	0.24	4.68	1.19	0.12
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.466	0.119	0.01	0.306	0.078	7.8E-03	0.153	0.039	3.9E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.466	0.119	0.01	0.306	0.078	7.8E-03	0.153	0.039	3.9E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.099	0.025	2.5E-03	0.065	0.017	1.7E-03	0.032	0.008	8.3E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.099	0.025	2.5E-03	0.065	0.017	1.7E-03	0.032	0.008	8.3E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	75.85	19.33	1.93	49.88	12.71	1.27	24.94	6.36	0.64
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	75.85	19.33	1.93	49.88	12.71	1.27	24.94	6.36	0.64
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	13.97	3.56	0.36	9.19	2.34	0.23	4.59	1.17	0.12
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	13.97	3.56	0.36	9.19	2.34	0.23	4.59	1.17	0.12
Totals		209.22	53.32	5.33	137.57	35.06	3.51	68.79	17.53	1.75

Methodology

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

Abbreviations

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

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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	581	0.110	4666.8
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.2E+05	581	0.110	4666.8
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.4E+03	6.7E+04	581	0.110	152.8
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.4E+03	1.7E+04	581	0.110	152.8
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.9E+02	1.3E+04	581	0.110	32.4
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.9E+02	3.5E+03	581	0.110	32.4
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	2.3E+05	4.3E+06	581	0.110	24889.5
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	2.3E+05	3.4E+06	581	0.110	24889.5
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	4.2E+04	1.7E+06	581	0.110	4584.9
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.1E+05	581	0.110	4584.9
Total					6.2E+05	1.3E+07			6.9E+04

Average Vehicle Weight Per Trip = 20.3 tons/trip
 Average Miles Per Trip = 0.110 miles/trip

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

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

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

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f =	0.15	0.03	0.01	lb/mile
Mitigated Emission Factor, E_{ext} =	0.14	0.03	0.01	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.35	0.07	0.02	0.32	0.06	0.02	0.16	0.03	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.35	0.07	0.02	0.32	0.06	0.02	0.16	0.03	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.011	0.002	5.6E-04	0.010	0.002	5.1E-04	0.005	1.0E-03	2.6E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.011	0.002	5.6E-04	0.010	0.002	5.1E-04	0.005	1.0E-03	2.6E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	2.4E-03	4.8E-04	1.2E-04	2.2E-03	4.4E-04	1.1E-04	1.1E-03	2.2E-04	5.4E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	2.4E-03	4.8E-04	1.2E-04	2.2E-03	4.4E-04	1.1E-04	1.1E-03	2.2E-04	5.4E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	1.85	0.37	0.09	1.69	0.34	0.08	0.85	0.17	0.04
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	1.85	0.37	0.09	1.69	0.34	0.08	0.85	0.17	0.04
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.34	0.07	0.02	0.31	0.06	0.02	0.16	0.03	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.34	0.07	0.02	0.31	0.06	0.02	0.16	0.03	0.01
Totals		5.11	1.02	0.25	4.67	0.93	0.23	2.33	0.47	0.11

Methodology

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

Abbreviations

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

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

Company Name: Rieth Riley Construction Co., Inc.
Source Address: 4150 Mayflower Road, South Bend, IN 46628
Permit Number: F141-36797-05408
Reviewer: Madhurima Moulik

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

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

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

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
Total		0.00

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	0.00%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	0.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	0.00	
Limited PTE of Single HAP (tons/yr) =	0.00	Xylenes

Methodology

The gasoline throughput was provided by the source.

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

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

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

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

*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science.

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

March 11, 2016

Mr. John Berscheid
Rieth Riley Construction Co.
PO Box 477
Goshen, IN 46527-0477

Re: Public Notice
Rieth Riley Construction Co.
Permit Level: New Source FESOP
Permit Number: 141 - 36797 - 05408

Dear Mr. Berscheid:

Enclosed is a copy of your draft New Source FESOP, Technical Support Document, emission calculations, and the Public Notice which will be printed in your local newspaper.

The Office of Air Quality (OAQ) has prepared two versions of the Public Notice Document. The abbreviated version will be published in the newspaper, and the more detailed version will be made available on the IDEM's website and provided to interested parties. Both versions are included for your reference. The OAQ has requested that the South Bend Tribune in South Bend, Indiana publish the abbreviated version of the public notice no later than March 17, 2016. You will not be responsible for collecting any comments, nor are you responsible for having the notice published in the newspaper.

OAQ has submitted the draft permit package to the St. Joseph County Public Library, 52807 Lynnewood Ave. in South Bend IN. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Madhurima Moulik, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 3-0868 or dial (317) 233-0868.

Sincerely,

Len Pogost

Len Pogost
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover letter 2/17/2016



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Commissioner

ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

March 11, 2016

South Bend Tribune
Attn: Classifieds
225 West Colfax Avenue
South Bend, Indiana 46626

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for Rieth Riley Construction Co., St. Joseph County, Indiana.

Since our agency must comply with requirements which call for a Notice of Public Comment, we request that you print this notice one time, no later than March 17, 2016.

Please send a notarized form, clippings showing the date of publication, and the billing to the Indiana Department of Environmental Management, Accounting, Room N1345, 100 North Senate Avenue, Indianapolis, Indiana, 46204.

To ensure proper payment, please reference account # 100174737.

We are required by the Auditor's Office to request that you place the Federal ID Number on all claims. If you have any conflicts, questions, or problems with the publishing of this notice or if you do not receive complete public notice information for this notice, please call Len Pogost at 800-451-6027 and ask for extension 3-2803 or dial 317-233-2803.

Sincerely,

Len Pogost

Len Pogost
Permit Branch
Office of Air Quality

Permit Level: New Source FESOP
Permit Number: 141 - 36797 - 05408

Enclosure
PN Newspaper.dot 6/13/2013



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Michael R. Pence
Governor

Carol S. Comer
Commissioner

March 11, 2016

To: St. Joseph County Public Library 52807 Lynnewood Ave. South Bend IN

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

Subject: **Important Information to Display Regarding a Public Notice for an Air Permit**

Applicant Name: Rieth Riley Construction Co.
Permit Number: 141 - 36797 - 05408

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Request to publish the Notice of 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. **Please make this information readily available until you receive a copy of the final package.**

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. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures
PN Library.dot 2/17/2016



Indiana Department of Environmental Management

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100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

Notice of Public Comment

March 11, 2016
Rieth Riley Construction Co.
141 - 36797 - 05408

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has been placed in the Legal Advertising section of your local newspaper. The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana's Air Permitting Program.

Please Note: *If you feel you have received this Notice 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. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.*

Enclosure
PN AAA Cover.dot 2/17/2016

Mail Code 61-53

IDEM Staff	LPOGOST 3/11/2016 Rieth-Riley Construction Company Incorporated 141 - 36797 - 05408 draft			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: CERTIFICATE OF MAILING ONLY	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handling 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		John Berscheid Rieth-Riley Construction Company Incorporated PO Box 477 Goshen IN 46527-0477 (Source CAATS)									
2		Mr. Wayne Falda South Bend Tribune 255 W Colfax Ave South Bend IN 46626 (Affected Party)									
3		South Bend City Council / Mayors Office 227 W. Jefferson Blvd. South Bend IN 46601 (Local Official)									
4		St. Joseph County Board of Commissioners 227 West Jefferson Blvd, South Bend IN 46601 (Local Official)									
5		St. Joseph County Health Department 227 W Jefferson Blvd, Room 825 South Bend IN 46601-1870 (Health Department)									
6		Ameritech Services, Inc. One Bell Center, Rm 36-M-01 St. Louis MO 63101 (Affected Party)									
7		Estes Express Lines 3901 W Broad Street Richmond VA 23230 (Affected Party)									
8		Brick Road, LLC 58000 8 Mile Road Northville MI 48167 (Affected Party)									
9		St. Joseph County Airport Authority 4535 Lincolnway West South Bend IN 46628 (Affected Party)									
10		Midwest Land Company 5021 Nimitz Parkway South Bend IN 46628 (Affected Party)									
11		South Bend Dept of Redevelopment FBO REDEV COMM 227 W Jefferson Blvd South Bend IN 46628 (Affected Party)									
12		St. Joseph County Public Library 52807 Lynnewood Ave. South Bend IN 46628 (Library)									
13											
14											
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