



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant
DATE: December 13, 2007
RE: Rieth-Riley Construction Company, Inc. / 127-23350-00111
FROM: Matthew Stuckey, Deputy Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot12/03/07



Mitchell E. Daniels, Jr.
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100 North Senate Avenue
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Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

**Rieth-Riley Construction Company, Inc.
361 West U.S. Highway 6
Valparaiso, Indiana 46383**

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

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

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

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

Operation Permit No.: F127-23350-00111	
Issued by: <i>Original signed by</i> Chrystal Wagner, Section Chief Permits Branch Office of Air Quality	Issuance Date: December 13, 2007 Expiration Date: December 13, 2012

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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 stationary batch mix asphalt pavement production plant.

Source Address:	361 West U.S. Highway 6, Valparaiso, Indiana 46383
Mailing Address:	PO BOX 477, Goshen, Indiana 46527
General Source Phone Number:	(574) 875-5183
SIC Code:	2951
County Location:	Porter
Source Location Status:	Nonattainment for 8-hour ozone standard Nonattainment for PM 2.5 standard Attainment for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD, Emission Offset and Nonattainment NSR Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

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

- (a) One (1) aggregate rotary batch dryer, identified as emission unit No. 2, constructed in 1975, with a maximum capacity of 400 tons per hour, equipped with one (1) re-refined waste oil fired aggregate dryer burner with a maximum rated capacity of 118 million (MM) British thermal units (Btu) per hour using natural gas, liquefied petroleum gas, No. 2 distillate fuel oil and No. 4 distillate fuel oil as back-up fuels, and a cyclone and baghouse in series for air pollution control, exhausting at one (1) stack, identified as SV1;
- (b) One (1) drag slat hot mix conveyor and three (3) feeder conveyors;
- (c) One (1) screen;
- (d) Three (3) liquid asphalt storage tanks, identified as Tanks 19A, 19B and 19C, with maximum storage capacities of 18,000, 25,000 and 25,000 gallons, respectively, with each tank exhausting at one (1) stack, identified as SV4, SV5, and SV6, respectively;
- (e) One (1) re-refined waste oil or No. 4 distillate fuel oil storage tank, identified as Tank 18, with a maximum storage capacity of 20,400 gallons, exhausting at one (1) stack identified as SV9;
- (f) One (1) No. 2 distillate fuel oil storage tank, identified as Tank 22, with a maximum storage capacity of 9,800 gallons, exhausting at one (1) stack, identified as SV10;
- (g) Cold-mix (stockpile mix) asphalt storage piles, containing cutback asphalt with 10 percent diesel-like solvent by volume.

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) No. 2 distillate fuel oil fired hot oil heater, identified as emission unit No. 20, rated at 1.0 MMBtu per hour using natural gas and butane as back-up fuels, exhausting at one (1) stack, identified as SV2;
- (b) one (1) No. 2 distillate fuel oil fired liquid asphalt storage tank heater, identified as emission unit No. 19A, rated at 0.5 MMBtu per hour using natural gas and butane as back-up fuels, exhausting at one (1) stack, identified as SV3;
- (c) one (1) tach tank, identified as Tank 23, with a maximum storage capacity of 13,800 gallons, exhausting at one (1) stack identified as SV8;
- (d) one (1) cold feed system consisting of six (6) compartments with a total aggregate holding capacity of 180 tons;
- (e) one (1) hot aggregate bucket elevator;
- (f) one (1) hot aggregate storage bin consisting of four (4) compartments;
- (g) one (1) aggregate weigh hopper and one (1) asphalt cement weigh hopper;
- (h) one (1) pug mill mixer with a maximum hot mix holding capacity of 10,000 pounds;
- (i) three (3) hot mix storage bins, each with a maximum storage capacity of 400 tons;
- (j) one (1) dust storage bin with a capacity of 200 barrels;
- (k) one (1) Reclaimed Asphalt Pavement (RAP) feed system;
- (l) aggregate storage piles, with a total maximum storage capacity of 100,600 tons;
- (m) a petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month;
- (n) vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids; and
- (o) paved and unpaved roads and parking lots with public access.

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

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

SECTION B GENERAL CONDITIONS

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

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

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

-
- (a) This permit, F127-23350-00111, 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.3 Term of Conditions [326 IAC 2-1.1-9.5]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) 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.
- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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

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

Telephone Number: 317-233-0178 (ask for Compliance Section)

Facsimile Number: 317-233-6865

Northwest Regional Office phone: (219) 757-0265; fax: (219) 757-0267.

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

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

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

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

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

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

- (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
- (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

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

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

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to F127-23350-00111 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted
- (b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

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

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

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

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

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

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

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

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

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

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

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

Request for renewal shall be submitted to:

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

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

B.18 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

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

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

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.19 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:
 - (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
 - (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
 - (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

- (4) The Permittee notifies the:

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

and

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

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

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

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

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

B.20 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

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

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

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

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

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

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

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

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

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

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

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), 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) The potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period. This limitation shall make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) not applicable.
- (c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.
- (d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 Opacity [326 IAC 5-1]

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

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

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

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

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

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

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

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

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

C.7 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.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or 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
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 IGCN 1003
Indianapolis, Indiana 46204-2251

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

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

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

C.9 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

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

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

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

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

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

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

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

C.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

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

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

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

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

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

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

- (a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on May 16, 2002.
- (b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level.
[326 IAC 1-5-3]

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

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

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

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

- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
 - (1) monitoring data;
 - (2) monitor performance data, if applicable; and
 - (3) corrective actions taken.

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

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

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

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

C.18 Emission Statement [326 IAC 2-6] [326 IAC 2-8-4(3)]

- (a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 an emission statement covering the previous calendar year as follows:
 - (1) starting in 2007 and every three (3) years thereafter, and
 - (2) any year not already required under (1) if the source emits oxides of nitrogen into the ambient air at levels equal to or greater than twenty-five (25) tons during the previous calendar year.
- (b) 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 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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

C.19 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

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

C.20 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

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

- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.21 Compliance with 40 CFR 82 and 326 IAC 22-1

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

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) aggregate rotary batch dryer, identified as emission unit No. 2, constructed in 1975, with a maximum capacity of 400 tons per hour, equipped with one (1) re-refined waste oil fired aggregate dryer burner with a maximum rated capacity of 118 million (MM) British thermal units (Btu) per hour using natural gas, liquefied petroleum gas, No. 2 distillate fuel oil and No. 4 distillate fuel oil as back-up fuels, and a cyclone and baghouse in series for air pollution control, exhausting at one (1) stack, identified as SV1;
- (b) One (1) drag slat hot mix conveyor and three (3) feeder conveyors;
- (c) One (1) screen;

Under 40 CFR 60, Subpart I, this is considered an affected hot mix asphalt facility.

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

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

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

Particulate matter emissions from the aggregate mixing and drying operation shall not exceed 0.0519 pound PM per ton of asphalt mix.

This limit, in conjunction with the asphalt production limit of D.1.8 (c), shall limit total source-wide PM emissions to less than 250 tons per year. Therefore, compliance with this limit will render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.2 Particulate Matter Less Than 10 Microns In Diameter (PM-10) [326 IAC 2-8-4] [326 IAC 2-1.1-5]

Pursuant to 326 IAC 2-8-4, emissions of particulate matter less than 10 microns in diameter from the aggregate mixing and drying operation shall not exceed 0.0313 pound of PM-10 per ton of asphalt mix.

This limit, in conjunction with the asphalt production limit of D.1.8 (c), shall limit total source-wide PM-10 emissions to less than 100 tons per year. Compliance with this limit will satisfy 326 IAC 2-8-4 and render the requirements of 326 IAC 2-7 (Part 70), and 326 IAC 2-1.1-5 (Nonattainment NSR) not applicable.

D.1.3 Sulfur Dioxide (SO₂) [326 IAC 7-1.1] [326 IAC 7-2-1]

- (a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 118 million Btu per hour burner for the aggregate dryer shall be limited to 1.6 pounds per million Btu heat input or a sulfur content of less than or equal to 1.5 percent when using re-refined waste oil. The source has accepted a sulfur content limit of 1.0 percent for re-refined waste oil.
- (b) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 118 million Btu per hour burner for the aggregate dryer shall be limited to 0.5 pounds per million Btu heat input or a sulfur content of less than or equal to 0.4% when using distillate oil.
- (c) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

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

Pursuant to 326 IAC 2-8-4(1), the following limits shall apply:

- (a) The sulfur content of the re-refined waste oil used in the 118 MMBtu per hour burner for the aggregate dryer shall not exceed 1.0 percent by weight.
- (b) The usage of re-refined waste oil and re-refined waste oil equivalents in the 118 MMBtu per hour burner for the aggregate dryer shall be limited to 750,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. Therefore, SO₂ emissions are limited to less than 100 tons per year.
- (c) For the purposes of determining compliance, every 1,000 gallons of No. 4 fuel oil burned shall be equivalent to 510 gallons of re-refined waste oil based on SO₂ emissions, such that the total gallons of re-refined waste oil and re-refined waste oil equivalent input does not exceed the limit specified.
- (d) For the purposes of determining compliance, every 1,000 gallons of No. 2 fuel oil burned shall be equivalent to 427 gallons of re-refined waste oil based on SO₂ emissions, such that the total gallons of re-refined waste oil and re-refined waste oil equivalent input does not exceed the limit specified.
- (e) For the purposes of determining compliance, every 1,000 gallons of Liquid Petroleum Gas (LPG) (propane / butane) burned shall be equivalent to 0.01 gallons of re-refined waste oil based on SO₂ emissions, such that the total gallons of re-refined waste oil and re-refined waste oil equivalent input does not exceed the limit specified.
- (f) For the purposes of determining compliance, every MMcf of natural gas burned shall be equivalent to 4.08 gallons of re-refined waste oil based on SO₂ emissions, such that the total gallons of re-refined waste oil and re-refined waste oil equivalent input does not exceed the limit specified;

Compliance with these limits will limit source-wide SO₂ emissions to less than 100 tons per year and shall also render the requirements of 326 IAC 2-7 (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.5 Hydrogen Chloride (HCl) Emissions [326 IAC 2-8-4]

The usage of re-refined waste oil in the 160 MMBtu per hour burner for the aggregate dryer shall be limited such that the emissions of Hydrogen Chloride (HCl) are less than 9.99 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

This limit is required to limit the source-wide emissions of HCl to less than 10 tons per year. Compliance with these limits will also limit source-wide emissions of combined HAPs to less than 25 tons per year. Therefore, compliance with these limits renders 326 IAC 2-7 (Part 70) not applicable.

D.1.6 Natural Gas Usage [326 IAC 2-8-4] [326 IAC 2-3]

Pursuant to 326 IAC 2-8-4(1), the following limits shall apply:

- (a) The usage of natural gas and natural gas equivalents in the 118 MMBtu per hour burner for the aggregate dryer shall not exceed 703,909,664 cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month, such that the source-wide NOx emissions are limited to less than 100 tons per year.
- (b) For the purposes of determining compliance, every 1,000 gallons of re-refined waste oil burned shall be equivalent to 68 MMcf of natural gas based on NOx emissions, such that the total MMcf of natural gas and natural gas equivalent input does not exceed the limit specified;
- (c) For the purposes of determining compliance, every 1,000 gallons of No. 4 fuel oil burned shall be equivalent to 168 MMcf of natural gas based on NOx emissions, such that the total MMcf of natural and natural gas equivalent input does not exceed the limit specified;
- (d) For the purposes of determining compliance, every 1,000 gallons of No. 2 fuel oil burned shall be equivalent to 86 MMcf of natural gas based on NOx emissions, such that the total MMcf of natural gas and natural gas equivalent input does not exceed the limit specified;
- (e) For the purposes of determining compliance, every 1,000 gallons of LPG (propane / butane) burned shall be equivalent to 75 MMcf of natural gas based on NOx emissions, such that the total MMcf of natural gas and natural gas equivalent input does not exceed the limit specified;

Compliance with these limits will limit source-wide NOx emissions to less than 100 tons per year and shall also render the requirements of 326 IAC 2-7 (Part 70) and 326 IAC 2-3 (Emission Offset) not applicable.

D.1.7 Carbon Monoxide (CO) [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, the following shall apply:

- (a) CO emissions from the batch mix dryer shall not exceed 0.4 pound of CO per ton of hot mix asphalt produced.
- (b) The amount of hot mix asphalt produced in the batch mix dryer shall not exceed 493,600 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits will limit source-wide CO emissions to less than 100 tons per year. Compliance with this limit will satisfy 326 IAC 2-8-4 and render the requirements of Part 70 (326 IAC 2-7) not applicable.

D.1.8 Volatile Organic Compounds (VOC) [326 IAC 2-8-4] [326 IAC 8-7] [326 IAC 2-3]

Pursuant to 326 IAC 2-8-4, the following shall apply:

- (a) VOC emissions from the batch mix dryer shall not exceed 0.036 pound of VOC per ton of hot mix asphalt produced.
- (b) VOC emissions from the load out and silo filling process shall not exceed 0.0041 and 0.0122 pounds of VOC per ton of hot mix asphalt produced, respectively.

- (c) The amount of hot mix asphalt produced in the batch mix dryer shall not exceed 493,600 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits will limit source-wide VOC emissions to less than 25 tons per year. Compliance with this limit will satisfy 326 IAC 2-8-4 and render the requirements of Part 70 (326 IAC 2-7), 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties), and 326 IAC 2-3 (Emission Offset) not applicable.

D.1.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements

D.1.10 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

- (a) No later than five (5) years from June 07, 2006, in order to demonstrate compliance with Conditions D.1.1, D.1.2 and D.1.19 the Permittee shall perform PM and PM₁₀ testing for the aggregate batch dryer/mixer utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM₁₀ includes filterable and condensable PM₁₀. Testing shall be conducted in accordance with Section C - Performance Testing.
- (b) Opacity testing utilizing 40 CFR Part 60 Appendix A, Method 9, to demonstrate compliance with the opacity limitation of Condition D.1.19.

This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

D.1.11 Hydrogen Chloride (HCl) Emissions

Compliance with the HCl limits in condition D.1.5 shall be demonstrated using the following equations.

$$E_{HCl} = Q_{WO} * EF_{HCl} * (1 \text{ ton} / 2000 \text{ lbs}) \quad (\text{Equation 1})$$

$$EF_{HCl} = 66 * C_{Cl} \quad (\text{AP-42, Table 1.11-3}) \quad (\text{Equation 2})$$

Where,

E_{HCl} = Emission of Hydrogen Chloride in tons

Q_{WO} = Waste Oil Consumption, Kgal

EF_{HCl} = Emission Factor of Hydrogen Chloride, lb/1000 gallons

C_{Cl} = Percentage of chlorine content in waste oil determined by the most recent sampling & analysis

D.1.12 Sulfur Dioxide Emissions and Sulfur and Chlorine Content

- (a) Compliance with Hydrogen Chloride shall be determined utilizing one of the following options
- (1) Providing vendor analysis of fuel delivered, accompanied by a vendor certification, or;

- (2) Analyzing the oil sample to determine the chlorine content of the oil via the procedures in 40 CFR 60, Appendix A-8, Method 26A.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis shall be required upon filling.

Compliance for sulfur dioxide shall be determined utilizing one of the following options.

- (b) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed 1.6 pounds per million Btu heat input when burning re-refined waste oil and No. 4 fuel oil, and 0.5 pounds per million Btu heat input when burning No. 2 distillate fuel oil by:
 - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (c) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 118 MMBtu per hour burner for the aggregate dryer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

D.1.13 Particulate Control

- (a) The cyclone and baghouse for particulate control shall be in operation and control emissions from the aggregate mixing and drying operation at all times that the aggregate mixing and drying operation is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

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

D.1.14 Visible Emissions Notations

- (a) Visible emission notations of the aggregate dryer and burner baghouse stack exhaust, and the conveying, material transfer points, and screening shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.1.15 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with the aggregate mixing and drying operation, at least once per day when the aggregate dryer and burner are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.1.16 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

D.1.17 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.3, D.1.4, D.1.5 and D.1.6, the Permittee shall maintain records in accordance with (1) through (8) below. Records maintained for (1) through (8) shall be taken monthly and shall be complete and sufficient to establish compliance with the SO₂ emission limit established in Conditions D.1.3 and D.1.4, HCl emission limit established in D.1.5 and the NO_x limit established in condition D.1.6.
- (1) Calendar dates covered in the compliance determination period or calendar quarter;
 - (2) Actual re-refined waste oil and re-refined waste oil equivalent usage per month since last compliance determination period or calendar quarter and equivalent SO₂ and HCl emissions;
 - (3) Actual natural gas and natural gas equivalent usage per month since last compliance determination period or calendar quarter and equivalent NO_x emissions;
 - (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 or calendar quarter; and
- If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
- (5) Fuel supplier certifications;
 - (6) The name of the fuel supplier;
 - (7) A statement from the fuel supplier that certifies the sulfur content of the fuel oil; and
 - (8) A statement from the fuel supplier that certifies the chlorine content of the re-refined waste oil.
- (b) To document compliance with Conditions D.1.7 and D.1.8, the Permittee shall maintain monthly records of the hot mix asphalt produced in the batch mix dryer.
- (c) The Permittee shall maintain records sufficient to verify compliance with the procedures specified in condition D.1.12 (a) or D.1.12 (b) if applicable. Records shall be maintained for a period of five (5) years and shall be made available upon request by IDEM.
- (d) To document compliance with Condition D.1.14, the Permittee shall maintain a daily record of visible emission notations of the aggregate dryer and burner baghouse stack exhaust, and the conveying, material transfer points, and screening. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (e) To document compliance with Condition D.1.15, the Permittee shall maintain a daily record of the pressure drop across the baghouse controlling the aggregate dryer. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

- (f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.17 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.4, D.1.5, D.1.6, D.1.7 and D.1.8 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]

D.1.18 General Provisions Relating to New Source Performance Standards (NSPS) for Hot Mix Asphalt Facilities [326 IAC 12-1][40 CFR Part 60, Subpart A] [40 CFR Part 60, Subpart I]

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

D.1.19 New Source Performance Standards (NSPS) for Hot Mix Asphalt Facilities [40 CFR Part 60, Subpart I]

Pursuant to 40 CFR Part 60, Subpart I, the Permittee shall comply with the provisions of 40 CFR 60, Subpart I specified as follows:

§ 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.

§ 60.91 Definitions.

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

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

§ 60.92 Standard for particulate matter.

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

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

§ 60.93 Test methods and procedures.

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

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

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

(2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

SECTION D.2

FACILITY CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (a) cold-mix (stockpile mix) asphalt storage piles.

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

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

D.2.1 Volatile Organic Compound (VOC) [326 IAC 2-8-4][326 IAC 2-3]

- (a) Cutback asphalt with VOC solvent liquid binder used in the production of cold mix asphalt shall not exceed 57.16 tons of VOC solvent per twelve (12) consecutive month period. This will limit the VOC emitted from solvent use to 12.00 tons per twelve (12) consecutive month period, based on the following definition:

Other asphalt with solvent binder, containing a maximum 10.0% of the liquid binder of VOC solvent and 21.0% by weight of the VOC solvent evaporating.

Therefore, the requirements of 326 IAC 2-7 will not apply. This limit will also render 326 IAC 2-3 (Emission Offset) not applicable.

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

D.2.2 Record Keeping Requirements

To document compliance with Condition D.2.1, the Permittee shall maintain records in accordance with (a) through (d) below. Records maintained for (a) through (d) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.2.1.

- (a) Calendar dates covered in the compliance determination period;
- (b) Cutback asphalt binder usage per month since the last compliance determination period;
- (c) VOC solvent content by weight of the cutback asphalt binder used each month; and
- (d) Amount of VOC solvent used in the production of cold mix asphalt, and the amount of VOC emitted each month.

All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.3 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.3

FACILITY CONDITIONS

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

- (a) Three (3) liquid asphalt storage tanks, identified as Tanks 19A, 19B and 19C, with maximum storage capacities of 18,000, 25,000 and 25,000 gallons, respectively, with each tank exhausting at one (1) stack, identified as SV4, SV5, and SV6, respectively;
- (b) One (1) re-refined waste oil or No. 4 distillate fuel oil storage tank, identified as Tank 18, with a maximum storage capacity of 20,400 gallons, exhausting at one (1) stack identified as SV9;
- (c) One (1) No. 2 distillate fuel oil storage tank, identified as Tank 22, with a maximum storage capacity of 9,800 gallons, exhausting at one (1) stack, identified as SV10;

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

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

D.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-9]

Pursuant to 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels), the permittee shall keep the following records over the life of each VOC storage vessel:

- (a) The vessel identification number;
- (b) The vessel dimensions
- (c) The vessel capacity
- (d) A description of the emission control equipment for each vessel.

D.3.2 Reporting Requirements

The permittee shall submit a one-time report containing the information in Condition D.3.1, to the address listed in Section C- General Reporting Requirements of this permit.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Rieth-Riley Construction Company, Inc.
Source Address: 361 West U.S. Highway 6, Valparaiso, Indiana 46383
Mailing Address: PO BOX 477, Goshen, IN 46527
FESOP Permit No.: F127-23350-00111

**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 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 Company, Inc.
Source Address: 361 West U.S. Highway 6, Valparaiso, Indiana 46383
Mailing Address: PO BOX 477, Goshen, IN 46527
FESOP Permit No.: F127-23350-00111

This form consists of 2 pages

Page 1 of 2

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

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

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

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

Page 2 of 2

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE DATA SECTION**

FESOP Quarterly Report

Source Name: Rieth-Riley Construction Company, Inc.
 Source Address: 361 West U.S. Highway 6, Valparaiso, Indiana 46383
 Mailing Address: PO BOX 477, Goshen, IN 46527
 FESOP Permit No.: F127-23350-00111
 Facility: 118 MMBtu per hour aggregate dryer burner
 Parameter: Re-refined waste oil and equivalent usage limit to limit SO₂ emissions.
 Limit: The usage of re-refined waste oil with a sulfur content of 1.0% and re-refined waste oil equivalents in the 118 MMBtu per hour burner for the aggregate dryer shall be limited to 750,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the fuel equivalency ratios in condition D.1.4 (c), (d), (e) and (f) shall be used.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Re-refined waste oil and equivalent usage. This Month (gallons)	Re-refined waste oil and equivalent usage Previous 11 Months. (gallons)	12 Month Total Re-refined waste oil and equivalent usage. (gallons)
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

FESOP Quarterly Report

Source Name: Rieth-Riley Construction Company, Inc.
 Source Address: 361 West U.S. Highway 6, Valparaiso, Indiana 46383
 Mailing Address: PO BOX 477, Goshen, IN 46527
 FESOP Permit No.: F127-23350-00111
 Facility: 118 MMBtu per hour aggregate dryer burner
 Parameter: Re-refined waste oil and equivalent usage limit to limit HCl emissions
 Limit: the usage of re-refined waste oil and re-refined waste oil equivalents in the 118 MMBtu per hour burner for the aggregate dryer shall be limited such that the emissions of HCl are less than 9.99 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the equations found in condition D.1.11 shall be used.

YEAR: _____

Month	Column 1			Column 2	Column 1 + Column 2
	Re-refined waste oil usage. This Month (gallons)	% CI	HCl emissions (tons). This Month	HCl emissions previous 11 Months. (tons)	12 Month Total HCl emissions (tons)
Month 1					
Month 2					
Month 3					

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

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

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

FESOP Quarterly Report

Source Name: Rieth-Riley Construction Company, Inc.
 Source Address: 361 West U.S. Highway 6, Valparaiso, Indiana 46383
 Mailing Address: PO BOX 477, Goshen, IN 46527
 FESOP Permit No.: F127-23350-00111
 Facility: 118 MMBtu per hour aggregate dryer burner
 Parameter: Natural gas and natural gas equivalent usage limit to limit NOx emissions.
 Limit: The usage of natural and natural gas equivalents in the 118 MMBtu per hour burner for the aggregate dryer shall not exceed 703,910,664 cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the fuel equivalency ratios in condition D.1.6 (b), (c), (d) and (e) shall be used.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Natural gas and equivalent usage. This Month (gallons)	Natural gas and equivalent usage Previous 11 Months. (gallons)	12 Month Total natural gas and equivalent usage. (gallons)
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

FESOP Quarterly Report

Source Name: Rieth-Riley Construction Company, Inc.
Source Address: 361 West U.S. Highway 6, Valparaiso, Indiana 46383
Mailing Address: PO BOX 477, Goshen, IN 46527
FESOP Permit No.: F127-23350-00111
Facility: batch mix dryer
Parameter: Hot mix asphalt production
Limit: The amount of hot mix asphalt produced in the batch mix dryer shall not exceed 493,600 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Hot Mix Asphalt Produced This Month (tons)	Hot Mix Asphalt Produced Previous 11 Months (tons)	12 Month Total Hot Mix Asphalt Produced (tons)
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

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

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

FESOP Quarterly Report

Source Name: Rieth-Riley Construction Company, Inc.
 Source Address: 361 West U.S. Highway 6, Valparaiso, Indiana 46383
 Mailing Address: PO BOX 477, Goshen, IN 46527
 FESOP Permit No.: F127-23350-00111
 Facility: Cold Mix Asphalt Storage
 Parameter: VOC Usage
 Limit: Cutback asphalt with VOC solvent liquid binder used in the production of cold mix asphalt shall not exceed 57.16 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month. This will limit the VOC emitted from solvent use to 12.00 tons per twelve (12) consecutive month period.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Total VOC Solvent Usage This Month (tons)	Total VOC Solvent Usage Previous 11 Months (tons)	12 Month Total VOC Solvent Usage (tons)
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

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

Source Name: Rieth-Riley Construction Company, Inc.
Source Address: 361 West U.S. Highway 6, Valparaiso, Indiana 46383
Mailing Address: PO BOX 477, Goshen, IN 46527
FESOP Permit No.: F127-23350-00111

Months: _____ **to** _____ **Year:** _____

Page 1 of 2

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

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: _____

Attach a signed certification to complete this report.

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

**Addendum to the
Technical Support Document (TSD) for a
Federally Enforceable State Operating Permit (FESOP) Renewal**

Source Background and Description

Source Name:	Rieth-Riley Construction Company, Inc.
Source Location:	361 West U.S. Highway 6, Valparaiso, IN, 46383
County:	Porter
SIC Code:	2951
Permit Renewal No.:	F127-23350-00111
Permit Reviewer:	Sangeetha Balakrishnan/EVP

On November 6, 2007, the Office of Air Quality (OAQ) had a notice published in the Chesterton Tribune in Chesterton, Indiana, stating that Rieth-Riley Construction Company, Inc. had applied for a Federally Enforceable State Operating Permit (FESOP) Renewal to continue to operate a stationary batch mix asphalt pavement production plant. The notice also stated that OAQ proposed to issue a FESOP for this operation and provided information on how the public could review the proposed FESOP and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this FESOP should be issued as proposed.

On November 7, 2007, Rieth-Riley Construction Company, Inc. submitted comments on the proposed permit. The summary of the comments and corresponding responses is as follows (additions in bold, deletions in ~~strikeout~~):

Comment 1:

Section D.1.6(a) limits our use of natural gas to 703,910 cubic feet per twelve month period. This should be 704 MMcf per twelve month period.

Response to Comment 1:

In order to limit source wide NO_x emissions to less than 100 tons per year, the usage of natural gas and natural gas equivalents in the 118 MMBtu per hour burner for the aggregate dryer shall not exceed 703,909,664 cubic feet per twelve (12) consecutive month period. Condition D.1.6(a) has been revised as shown below.

D.1.6 Natural Gas Usage [326 IAC 2-8-4] [326 IAC 2-3]

Pursuant to 326 IAC 2-8-4(1), the following limits shall apply:

- (a) The usage of natural gas and natural gas equivalents in the 118 MMBtu per hour burner for the aggregate dryer shall not exceed ~~703,910~~ **703,909,664** cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month, such that the source-wide NO_x emissions are limited to less than 100 tons per year.

Comment 2:

Section D.1.5, the limit of the Chlorine content of the re-refined waste oil used should be 0.4%, not 0.1%. Compliance with the source-wide emission limit of less than 10 tons per year HCl will be demonstrated through record keeping the following equation from AP-42 should be used:

$$E = (U \times 66Cl) + P$$

Where E = actual emissions
U = actual re-refined waste oil used in kilogallon
Cl = weight percent of Cl in waste oil used
P = actual emissions

Response to Comment 2:

IDEM, OAQ allows HCl emissions to be calculated based on the chlorine content of the fuel combusted in order to limit the HCl emissions to 10 tons per year. Condition D.1.11 has been added to the permit and conditions D.1.5, D.1.11 (renumbered D.1.12), and D.1.16 (renumbered D.1.17) of this permit have been revised as shown below.

D.1.5 Hydrogen Chloride (HCl) Emissions [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4(1), the following limits shall apply:

- (a) ~~the chlorine content of the re-refined waste oil used in the 118 MMBtu per hour burner for the aggregate dryer shall not exceed 0.10 percent by weight.~~
- (b) ~~the usage of re-refined waste oil in the 118 MMBtu per hour burner for the aggregate dryer shall be limited to 750,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- (c) ~~The HCl emissions from the 118 MMBtu per hour burner for the aggregate dryer shall be limited to less than 26.40 pounds of HCl per 1,000 gallons of re-refined waste oil burned.~~

The usage of re-refined waste oil in the 160 MMBtu per hour burner for the aggregate dryer shall be limited such that the emissions of Hydrogen Chloride (HCl) are less than 9.99 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

~~These~~ **This** limits ~~are~~ **is** required to limit the source-wide emissions of HCl to less than 10 tons per year. Compliance with these limits will also limit source-wide emissions of combined HAPs to less than 25 tons per year. Therefore, compliance with these limits renders 326 IAC 2-7 (Part 70) not applicable.

D.1.11 Hydrogen Chloride (HCl) Emissions

Compliance with the HCl limits in condition D.1.5 shall be demonstrated using the following equations.

$$E_{HCl} = Q_{WO} * EF_{HCl} * (1 \text{ ton} / 2000 \text{ lbs}) \quad \text{(Equation 1)}$$

$$EF_{HCl} = 66 * C_{Cl} \quad (\text{AP-42, Table 1.11-3}) \quad \text{(Equation 2)}$$

Where,

E_{HCl} = Emission of Hydrogen Chloride in tons

Q_{WO} = Waste Oil Consumption, Kgal

EF_{HCl} = Emission Factor of Hydrogen Chloride , lb/1000 gallons

C_{Cl} = Percentage of chlorine content in waste oil determined by the most recent sampling & analysis

D.1.1412 Sulfur Dioxide Emissions and Sulfur and Chlorine Content

~~(a) The Permittee shall demonstrate that the chlorine content of the re-refined waste oil does not exceed 0.1% by providing vendor analysis of fuel delivered, accompanied by a vendor certification.~~

(a) Compliance with Hydrogen Chloride shall be determined utilizing one of the following options

(1) Providing vendor analysis of fuel delivered, accompanied by a vendor certification, or;

(2) Analyzing the oil sample to determine the chlorine content of the oil via the procedures in 40 CFR 60, Appendix A-8, Method 26A.

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(B) If a partially empty fuel tank is refilled, a new sample and analysis shall be required upon filling.

D.1.1617 Record Keeping Requirements

~~(a) To document compliance with Conditions D.1.3, D.1.4, D.1.5 and D.1.6, the Permittee shall maintain records in accordance with (1) through ~~(7)~~(8) below. Records maintained for (1) through ~~(7)~~(8) shall be taken monthly and shall be complete and sufficient to establish compliance with the SO₂ emission limit established in Conditions D.1.3 and D.1.4, HCl emission limit established in D.1.5 and the NO_x limit established in condition D.1.6.~~

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

~~(2) Actual re-refined waste oil and re-refined waste oil equivalent usage per month since last compliance determination period or calendar quarter and equivalent SO₂ and HCl emissions;~~

~~(3) Actual natural gas and natural gas equivalent usage per month since last compliance determination period or calendar quarter and equivalent NO_x emissions;~~

~~(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 or calendar quarter; and~~

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

~~(5) Fuel supplier certifications;~~

~~(6) The name of the fuel supplier; and~~

- (7) A statement from the fuel supplier that certifies the sulfur content of the fuel oil;
and
- (8) **A statement from the fuel supplier that certifies the chlorine content of the re-refined waste oil.**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE DATA SECTION**

FESOP Quarterly Report

Source Name: Rieth-Riley Construction Company, Inc.
 Source Address: 361 West U.S. Highway 6, Valparaiso, Indiana 46383
 Mailing Address: PO BOX 477, Goshen, IN 46527
 FESOP Permit No.: F127-23350-00111
 Facility: 118 MMBtu per hour aggregate dryer burner
 Parameter: Re-refined waste oil and equivalent usage limit to limit SO₂ and HCl emissions.
 Limit: The usage of re-refined waste oil with a sulfur content of 1.0% and re-refined waste oil equivalents in the 118 MMBtu per hour burner for the aggregate dryer shall be limited to 750,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the fuel equivalency ratios in condition D.1.4 (c), (d), (e) and (f) shall be used.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Re-refined waste oil and equivalent usage. This Month (gallons)	Re-refined waste oil and equivalent usage Previous 11 Months. (gallons)	12 Month Total Re-refined waste oil and equivalent usage. (gallons)
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

FESOP Quarterly Report

Source Name: Rieth-Riley Construction Company, Inc.
Source Address: 361 West U.S. Highway 6, Valparaiso, Indiana 46383
Mailing Address: PO BOX 477, Goshen, IN 46527
FESOP Permit No.: F127-23350-00111
Facility: 118 MMBtu per hour aggregate dryer burner
Parameter: Re-refined waste oil and equivalent usage limit to limit HCl emissions
Limit: the usage of re-refined waste oil and re-refined waste oil equivalents in the 118 MMBtu per hour burner for the aggregate dryer shall be limited such that the emissions of HCl are less than 9.99 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the equations found in condition D.1.11 shall be used.

YEAR: _____

Month	Column 1			Column 2	Column 1 + Column 2
	Re-refined waste oil usage. This Month (gallons)	% Cl	HCl emissions (tons). This Month	HCl emissions previous 11 Months. (tons)	12 Month Total HCl emissions (tons)
Month 1					
Month 2					
Month 3					

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

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

Attach a signed certification to complete this report.

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

Technical Support Document (TSD) for a Federally Enforceable State Operating Permit
Renewal

Source Background and Description

Source Name:	Rieth-Riley Construction Company, Inc.
Source Location:	361 West U.S. Highway 6, Valparaiso, IN, 46383
County:	Porter
SIC Code:	2951
Permit Renewal No.:	F127-23350-00111
Permit Reviewer:	Sangeetha Balakrishnan/EVP

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Rieth-Riley Construction Company, Inc. relating to the operation of stationary batch mix asphalt pavement production plant.

History

On July 12, 2006, Rieth-Riley Construction Company, Inc. submitted an application to the OAQ requesting to renew its operating permit. Rieth-Riley Construction Company, Inc. was issued a FESOP renewal F127-14158-03224 on April 18, 2002. The portable plant ID number has been replaced with a new stationary plant ID number. This source no longer meets the definition of "portable source", pursuant to 326 IAC 2-1.1-1 (15), because it has not relocated at least once during the permit term.

Permitted Emission Units and Pollution Control Equipment

- (a) One (1) aggregate rotary batch dryer, identified as emission unit No. 2, constructed in 1975, with a maximum capacity of 400 tons per hour, equipped with one (1) re-refined waste oil fired aggregate dryer burner with a maximum rated capacity of 118 million (MM) British thermal units (Btu) per hour using natural gas, liquefied petroleum gas, No. 2 distillate fuel oil and No. 4 distillate fuel oil as back-up fuels, and a cyclone and baghouse in series for air pollution control, exhausting at one (1) stack, identified as SV1;
- (b) One (1) drag slat hot mix conveyor and three (3) feeder conveyors;
- (c) One (1) screen;
- (d) Three (3) liquid asphalt storage tanks, identified as Tanks 19A, 19B and 19C, with maximum storage capacities of 18,000, 25,000 and 25,000 gallons, respectively, with each tank exhausting at one (1) stack, identified as SV4, SV5, and SV6, respectively;
- (e) One (1) re-refined waste oil or No. 4 distillate fuel oil storage tank, identified as Tank 18, with a maximum storage capacity of 20,400 gallons, exhausting at one (1) stack identified as SV9;
- (f) One (1) No. 2 distillate fuel oil storage tank, identified as Tank 22, with a maximum storage capacity of 9,800 gallons, exhausting at one (1) stack, identified as SV10;
- (g) Cold-mix (stockpile mix) asphalt storage piles, containing cutback asphalt with 10 percent diesel-like solvent by volume.

Insignificant Activities

- (a) one (1) No. 2 distillate fuel oil fired hot oil heater, identified as emission unit No. 20, rated at 1.0 MMBtu per hour using natural gas and butane as back-up fuels, exhausting at one (1) stack, identified as SV2;
- (b) one (1) No. 2 distillate fuel oil fired liquid asphalt storage tank heater, identified as emission unit No. 19A, rated at 0.5 MMBtu per hour using natural gas and butane as back-up fuels, exhausting at one (1) stack, identified as SV3;
- (c) one (1) tach tank, identified as Tank 23, with a maximum storage capacity of 13,800 gallons, exhausting at one (1) stack identified as SV8;
- (d) one (1) cold feed system consisting of six (6) compartments with a total aggregate holding capacity of 180 tons;
- (e) one (1) hot aggregate bucket elevator;
- (f) one (1) hot aggregate storage bin consisting of four (4) compartments;
- (g) one (1) aggregate weigh hopper and one (1) asphalt cement weigh hopper;
- (h) one (1) pug mill mixer with a maximum hot mix holding capacity of 10,000 pounds;
- (i) three (3) hot mix storage bins, each with a maximum storage capacity of 400 tons;
- (j) one (1) dust storage bin with a capacity of 200 barrels;
- (k) one (1) Reclaimed Asphalt Pavement (RAP) feed system;
- (l) aggregate storage piles, with a total maximum storage capacity of 100,600 tons;
- (m) a petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month;
- (n) vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids; and
- (o) paved and unpaved roads and parking lots with public access.

Existing Approvals

Since the issuance of the FESOP renewal 127-14158-03224 on April 18, 2002, the source has also constructed or has been operating under the following approvals:

- (a) First Administrative Amendment No. 127-19595-03224 issued on November 3, 2004;
- (b) Second Administrative Amendment No. 127-18899-03224 issued on January 19, 2005; and
- (c) Third Administrative Amendment No. 127-22442-03224 issued on January 18, 2006.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

The following condition from a previous approval has been determined to be no longer applicable; therefore, it was not incorporated into this FESOP Renewal:

- (a) FESOP 127-14158-03224 issued on April 18, 2002, Condition D.1.12:

D.1.12 Used Oil Requirements [329 IAC 13]

The waste oil burned in the dryer/mixer burner shall comply with the used oil requirements specified in 329 IAC 13 (Used Oil Management). Pursuant to 329 IAC 13-3-2 (Used Oil Specifications), used oil burned for energy recovery that is classified as off-specification used oil fuel shall comply with the provisions of 329 IAC 13-8 (Used Oil Burners Who Burn Off-specification Used Oil For Energy Recovery), including:

- (a) Receipt of an EPA identification number as outlined in 329 IAC 13-8-3 (Notification),
- (b) Compliance with the used oil storage requirements specified in 329 IAC 13-8-5 (Used Oil Storage), and
- (c) Maintaining records pursuant to 329 IAC 13-8-6 (Tracking).

The burning of mixtures of used oil and hazardous waste that is regulated under 329 IAC 3.1 is prohibited at this source.

Reason not incorporated: Upon further review, IDEM has determined that the above condition does not need to be included in the permit, since it is not regulated by Title 326 of the Indiana Administrative Code (IAC).

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
SV1	Dryer with aggregate dryer burner, cyclone and baghouse	66	47	60,000	240
SV4	Liquid asphalt storage tank 19A	12	3	27	300
SV5	Liquid asphalt storage tank 19B	13	3	27	300
SV6	Liquid asphalt storage tank 19C	13	3	27	300
SV9	One (1) Re-refined waste oil or No. 4 distillate Fuel oil storage tank (Tank # 18)	31	3	27	140
SV10	One (1) No. 2 distillate Fuel oil storage tank (Tank # 22)	10	3	27	Ambient

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Porter County.

Pollutant	Status
PM ₁₀	Attainment
PM _{2.5}	Nonattainment
SO ₂	Attainment
NOx	Attainment
8-hour Ozone	Nonattainment
CO	Attainment
Lead	Attainment

- (a) U.S. EPA in Federal Register Notice 70 FR 943 dated January 5, 2005 has designated Porter County as nonattainment for PM_{2.5}. On March 7, 2005 the Indiana Attorney General's Office on behalf of IDEM filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of non-attainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for violation of the Clean Air Act, the OAQ is following the U.S. EPA's guidance to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions pursuant to the Non-attainment New Source Review requirements. See the State Rule Applicability – Entire Source section.
- (b) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC emissions and NOx emissions are considered when evaluating the rule applicability relating to ozone standards. Porter County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability – Entire Source section.
- (c) Porter County has been classified as attainment or unclassifiable in Indiana for PM₁₀, SO₂, NOx, CO and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	tons/year
PM	Greater than 250
PM-10	Greater than 250
SO ₂	Greater than 250
VOC	Greater than 250
CO	Greater than 250
NO _x	Greater than 100 less than 250

HAPs	tons/yr
Acetaldehyde	Less than 10
Arsenic	Less than 10
Benzene	Less than 10
Beryllium	Less than 10
Cadmium	Less than 10
Chromium	Less than 10
Ethyl benzene	Less than 10
Formaldehyde	Less than 10
HCl	Greater than 10
Lead	Less than 10
Manganese	Less than 10
Mercury	Less than 10
Quinone	Less than 10
Nickel	Less than 10
Selenium	Less than 10
Toluene	Less than 10
Total PAH	Less than 10
Xylene	Less than 10
Total	Greater than 25

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM-10, SO₂, VOC, CO, and NO_x is equal to or greater than 100 tons per year. The source is subject to the provisions of 326 IAC 2-7. However, the source has agreed to limit their PM-10, SO₂, VOC, CO, and NO_x emissions to less than Title V levels, therefore the source will be issued a FESOP.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than 100 tons per year.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. However, the source has agreed to limit their single HAP emissions and total HAP emissions below Title V levels. Therefore, the source will be issued a FESOP.

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-7, fugitive emissions are not counted toward the determination of Part 70 applicability.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2002 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM-10	18
SO ₂	23
VOC	0
CO	1
NO _x	4

Potential to Emit After Issuance

The source has opted to remain a FESOP source. The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this FESOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/emission unit	Potential To Emit (tons/year)							
	PM	PM-10	SO ₂	VOC	CO	NO _x	Single HAP	Total HAPs
Aggregate dryer burner ⁽¹⁾	68.86 ⁽²⁾	54.77 ⁽³⁾	97.23	8.88	98.72	98.55	4.37 (HCl)	6.20
Heaters	0.09	0.15	2.67	0.04	0.55	1.35	-	-
Conveying / handling	19.37	9.16	-	-	-	-	-	-
Unpaved roads ⁽⁴⁾	138.30	35.25	-	-	-	-	-	-
Storage piles	0.87	0.30	-	-	-	-	-	-
Load out and silo filling	0.27	0.27	-	3.97	0.62	-	-	-
Cold mix VOC storage ⁽⁵⁾	-	-	-	12.00	-	-	-	-
Total Emissions	227.76	99.9	99.9	24.9	99.9	99.9	4.37	6.20

Notes:

- (1) Emissions represent emissions after fuel usage limitations to limit SO₂ and NO_x emissions each to 99.9 tons per year and a hot mix asphalt production limit to limit CO emissions to 99.9 tons per year to comply with 326 IAC 2-8 (FESOP).
 - (2) Allowable PM emissions pursuant to 40 CFR 60, Subpart I.
 - (3) Allowable PM-10 emissions to comply with 326 IAC 2-8 (FESOP).
 - (4) Emissions after control.
 - (5) Maximum allowable VOC emissions in order to comply with 326 IAC 2-8 (FESOP).
- (a) This existing stationary source is not major for PSD because the emissions of each criteria pollutant are less than two hundred fifty (<250) tons per year, and it is not one of the twenty-eight (28) listed source categories.
- (b) Fugitive Emissions
 This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3. However, there is an applicable New Source Performance Standard that was in effect on August 7, 1980; therefore, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

Federal Rule Applicability

- (a) The stationary batch mix asphalt plant constructed in 1975 is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.90, Subpart I) because it meets the definition of a hot mix asphalt facility pursuant to the rule and was constructed after June 11, 1973. This rule limits particulate matter emissions to 0.04 grains per dry standard cubic foot (gr/dscf) and also limits visible emissions to 20% opacity.

The source will comply with this rule by using a baghouse to limit particulate matter emissions to less than 0.04 grains/dscf.

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

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

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

- (b) The 18,000 gallon liquid asphalt storage tank (Tank 19A), the 20,400 gallon re-refined waste oil or No. 4 distillate fuel oil storage tank (Tank 18) and the 9,800 gallon No. 2 distillate fuel oil storage tank (Tank 22), are not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.110b, Subpart Kb) "Standards of Performance for Volatile Organic Liquid Storage Vessels" because the tanks were constructed prior to 1984. These tanks are also not subject to the New Source Performance Standards, 326 IAC 12, (40 CFR Part 60.110, Subpart K and 40 CFR Part 60.110a, Subpart Ka) "Standards of Performance for Volatile Organic Liquid Storage Vessels" because they have a storage capacity of less than 40,000 gallons. Therefore, these requirements are not included in the permit.
- (c) The two (2) 25,000 gallon liquid asphalt storage tanks (Tanks 19B & 19C), installed in 2001, are not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.110b, Subpart Kb) "Standards of Performance for Volatile Organic Liquid Storage Vessels". The tanks are not subject to this rule because the tanks have a storage capacity greater than 75 cubic meters but less than 151 cubic meters, and the liquid stored in the tanks has a maximum true vapor pressure of less than 15.0 kPa. Therefore, these requirements are not included in the permit.
- (d) The asphalt plant is not subject to the New Source Performance Standard 326 IAC 12 (40 CFR 60.670 through 60.676, Subpart OOO) "Standards of Performance for Nonmetallic Mineral Processing Plants" for recycled asphalt pavement (RAP) usage since the RAP is received onsite ready-to-use, and there is no crushing or grinding of the RAP prior to loading into the first storage silo/bin. Therefore, these requirements are not included in the permit.
- (e) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit renewal.

- (f) The requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not included in this permit. Generally, such requirements apply to a Part 70 source that involves a pollutant-specific emissions unit (PSEU), as defined in 40 CFR 64.1, which meets the following criteria:
- (1) The unit is subject to an emission limitation or standard for an applicable regulated air pollutant;
 - (2) The unit uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard; and
 - (3) The unit has a potential to emit before controls equal to or greater than the applicable Part 70 major source threshold for the regulated pollutant.

As a FESOP source, this source has accepted federally enforceable limits such that the requirements of 326 IAC 2-7 (Part 70) do not apply. Therefore, the requirements of 40 CFR 64, Compliance Assurance Monitoring, are not included in this permit.

State Rule Applicability - Entire Source

326 IAC 2-1.1-5 (Non-attainment NSR)

Porter County has been designated as non-attainment for PM 2.5 in 70 FR 943 dated January 5, 2005. According to the April 5, 2005 EPA memo titled "Implementation of New Source Review Requirements in PM2.5 Non-attainment Areas" authored by Steve Page, Director of OAQPS, until EPA promulgates the PM 2.5 major NSR regulations, states should assume that a major stationary source's PM10 emissions represent PM2.5 emissions. IDEM will use the PM10 non-attainment major NSR program as a surrogate to address the requirements of non-attainment major NSR for the PM2.5 NAAQS. A major source in a non-attainment area is a source that emits or has the potential to emit 100 tpy of any regulated pollutant. Rieth-Riley Construction Company, Inc. has a limited potential to emit of PM10 below 100 tpy. Therefore, assuming that PM10 emissions represent PM2.5 emissions, Non-attainment NSR does not apply.

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source, constructed in 1975 before the August, 1977 applicability date, is not subject to the requirements of this rule. This source is an existing minor PSD source because the allowable emissions of all regulated pollutants are less than 250 tons per year. As shown in the Potential to Emit After Issuance table above, the allowable emissions of all regulated pollutants, except PM, are less than 100 tons per year after application of all federally enforceable emission limits (see 326 IAC 2-8-4 (FESOP) discussion below). PM emissions are limited to less than 250 tons per year. The particulate emission limit for the aggregate dryer and burner is 0.0519 lb/ton of asphalt mix (equivalent to 91.01 tons per year, based on a maximum asphalt mix throughput of 400 tons per hour). Therefore the requirements of 326 IAC 2-2 (PSD) do not apply. The source will remain an existing minor PSD source.

326 IAC 2-3 (Emission Offset)

Porter County has been designated as basic non-attainment for the 8-hour ozone standard. This source is not considered a major source because the potential to emit of NO_x is limited to less than 100 tons per year and the VOC emissions shall be limited to less than 100 tons per year as described under the FESOP section below. Therefore, this source has been operating as a minor source pursuant to 326 IAC 2-3, Emission Offset.

326 IAC 2-6 (Emission Reporting)

This source which is located in Porter County is subject to 326 IAC 2-6 (Emission Reporting) because it emits NO_x greater than twenty-five (25) tons per year (tpy). In accordance with the compliance schedule in 326 IAC 2-6-3, an emission statement must be submitted annually if the source emits NO_x greater than twenty-five (25) tons during the previous calendar year. Otherwise, it is reported triennially according to the schedule. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 2-8-4 (FESOP)

This source is subject to 326 IAC 2-8-4 (FESOP). Pursuant to this rule, the following limits shall apply:

- (a) The sulfur content of the re-refined waste oil used in the 118 MMBtu per hour burner for the aggregate dryer shall not exceed 1.0 percent by weight.
- (b) The chlorine content of the re-refined waste oil used in the 118 MMBtu per hour burner for the aggregate dryer shall not exceed 0.10 percent by weight.
- (c) The usage of re-refined waste oil and re-refined waste oil equivalents in the 118 MMBtu per hour burner for the aggregate dryer shall not exceed 1,322,918 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) The HCl emissions from the 118 MMBtu per hour burner for the aggregate dryer shall be limited to less than 6.60 pounds of HCl per 1,000 gallons of re-refined waste oil burned, based on a chlorine content limit of 0.10% by weight.

These limits are required to limit the source-wide SO₂ emissions to less than 100 tons per year and source-wide HCl emissions to less than 10 tons per year. Since HCl is the only single HAP with unrestricted potential emissions of greater than 10 tons per year, this limit will ensure that source-wide single HAP emissions are limited to less than 10 tons per year. Compliance with these limits will also limit source-wide emissions of combined HAP to less than 25 tons per year.

For purposes of determining compliance, the following shall apply:

- (1) Every 1,000 gallons of No. 4 fuel oil burned shall be equivalent to 510 gallons of re-refined waste oil based on SO₂ emissions, such that the total gallons of re-refined waste oil and re-refined waste oil equivalent input does not exceed the limit specified;
- (2) Every 1,000 gallons of No. 2 fuel oil burned shall be equivalent to 427 gallons of re-refined waste oil based on SO₂ emissions, such that the total gallons of re-refined waste oil and re-refined waste oil equivalent input does not exceed the limit specified;
- (3) Every 1,000 gallons of Liquid Petroleum Gas (LPG) (propane / butane) burned shall be equivalent to 0.01 gallons of re-refined waste oil based on SO₂ emissions, such that the total gallons of re-refined waste oil and re-refined waste oil equivalent input does not exceed the limit specified;
- (4) Every MMcf of natural gas burned shall be equivalent to 4.08 gallons of re-refined waste oil based on SO₂ emissions, such that the total gallons of re-refined waste oil and re-refined waste oil equivalent input does not exceed the limit specified;

- (e) The input of natural gas, plus natural gas equivalents in the 118 MMBtu per hour burner for the aggregate dryer shall be limited to 704 MMcf per twelve (12) consecutive month period, with compliance determined at the end of each month, so that NOx emissions are limited below 100 tons per year.

For purposes of determining compliance, the following shall apply:

- (1) Every 1,000 gallons of re-refined waste oil burned shall be equivalent to 68 MMcf of natural gas based on NOx emissions, such that the total MMcf of natural gas and natural gas equivalent input does not exceed the limit specified;
 - (2) Every 1,000 gallons of No. 4 fuel oil burned shall be equivalent to 168 MMcf of natural gas based on NOx emissions, such that the total MMcf of natural and natural gas equivalent input does not exceed the limit specified;
 - (3) Every 1,000 gallons of No. 2 fuel oil burned shall be equivalent to 86 MMcf of natural gas based on NOx emissions, such that the total MMcf of natural gas and natural gas equivalent input does not exceed the limit specified;
 - (4) Every 1,000 gallons of LPG (propane / butane) burned shall be equivalent to 75 MMcf of natural gas based on NOx emissions, such that the total MMcf of natural gas and natural gas equivalent input does not exceed the limit specified;
- (f) CO emissions from the batch mix dryer shall not exceed 0.4 pound of CO per ton of hot mix asphalt produced.
- (g) The amount of hot mix asphalt produced in the batch mix dryer shall not exceed 493,600 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

The limits in (f) and (g) above limit total source-wide CO emissions to less than 100 tons per year.

- (h) VOC emissions from the batch mix dryer shall not exceed 0.036 pound of VOC per ton of hot mix asphalt produced.
- (i) The amount of hot mix asphalt produced in the batch mix dryer shall not exceed 493,600 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

The limits in (h) and (i) above shall limit VOC emissions from the batch mix dryer to 8.88 tons per year.

- (j) VOC emissions from the load out and silo fillings not exceed 0.0041 and 0.0122 pounds of VOC per ton of hot mix asphalt produced, respectively.
- (k) The amount of hot mix asphalt produced in the load out and silo filling shall not exceed 493,600 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

The limits in (j) and (k) above shall limit VOC emissions from the load out and silo filling operations to 3.97 tons per year.

- (l) Cutback asphalt with VOC solvent liquid binder, containing a maximum of 10% of the liquid binder of VOC solvent and 21% by weight of the VOC solvent evaporating, used in the production of cold mix asphalt shall not exceed 57.16 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month. This will limit the VOC emitted from solvent use to 12.00 tons per twelve (12) consecutive month period so that source-wide VOC emissions are limited to 24.9 tons per year.
- (m) PM-10 emissions from the aggregate dryer shall be limited to 0.0313 pound PM-10 per ton of asphalt mix which is equivalent to 12.50 pounds of PM-10 emitted per hour, based on a maximum throughput of 400 tons of asphalt mix per hour. Based on 8,760 hours of operation per 12 consecutive month period, this limits PM-10 emissions from the aggregate mixing and drying operation to 54.76 tons per year for a source-wide total potential to emit of 99.9 tons per year. The source will be able to comply with the PM-10 emission limit by utilizing a baghouse for controlling PM-10 emissions to less than 12.50 pounds per hour from the aggregate dryer.

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 the permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2(1), (2) or (3).

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This source is not subject to 326 IAC 6-5 for fugitive particulate matter emissions. Pursuant to 326 IAC 6-5, for any new sources constructed after December 13, 1985, a fugitive dust control plan must be submitted, reviewed and approved. The source was constructed in 1975, therefore the requirements of 326 IAC 6-5 do not apply.

State Rule Applicability – Individual Facilities

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this stationary batch mix asphalt pavement production plant will emit less than 10 tons per year of a single HAP and less than 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

The aggregate mixing and drying operation is not subject to the requirements of 326 IAC 6-3-2. This rule does not apply if the limitation established in the rule is less stringent than applicable limitations in 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset), 326 IAC 6.5-1, 326 IAC 11, 326 IAC 12, or 326 IAC 20. Since the applicable PM emission limits established by 326 IAC 12, 40 CFR 60, Subpart I is less than the PM limit that would be established by 326 IAC 6-3-2 (66.31 pounds per hour, see Appendix A, page 13 of 13), the more stringent limit applies and the limit pursuant to 326 IAC 6-3-2 does not apply.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The sulfur dioxide emissions from the 118 MMBtu/hr dryer burning re-refined waste oil shall be limited to 1.6 pounds per MMBtu heat input. This equates to a fuel oil sulfur content limit of 1.5%. Therefore, the sulfur content of the fuel must be less than or equal to 1.5% in order to comply with this rule (See Appendix A, Page 13 of 13 for detailed calculations). The source will be able to comply with this rule by using re-refined waste oil with a sulfur content of 1.0% or less.

The sulfur dioxide emissions from the 118 MMBtu/hr dryer burning No. 4 fuel shall be limited to 1.6 lb/MMBtu heat input. This equates to a fuel oil sulfur content limit of 1.6%. Therefore, the sulfur content of the fuel must be less than or equal to 1.6% in order to comply with this rule (See Appendix A, Page 13 of 13 for detailed calculations). The source will be able to comply with this rule by using No. 4 fuel oil with a sulfur content of 0.5% or less.

The sulfur dioxide emissions from the 118 MMBtu/hr dryer burning No. 2 distillate fuel shall be limited to 0.5 lb/MMBtu heat input. This equates to a fuel oil sulfur content limit of 0.4%. Therefore, the sulfur content of the fuel must be less than or equal to 0.4% in order to comply with this rule (See Appendix A, Page 13 of 13 for detailed calculations). The source will be able to comply with this rule by using No. 2 distillate fuel oil with a sulfur content of 0.4% or less.

The 1.0 and 0.5 MMBtu/hr hot oil heaters are not subject to the requirements of this rule because potential SO₂ emissions from these units are less than 25 tons per year.

326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements)

This source is subject to 326 IAC 7-2-1 (Reporting Requirements). This rule requires the source to submit to the Office of Air Quality upon request records of sulfur content, heat content, fuel consumption, and sulfur dioxide emission rates based on a calendar-month average.

326 IAC 8-1-6 (BACT)

This rule applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, which have potential volatile organic compound (VOC) emissions of 25 tons per year or more, and which are not otherwise regulated by another provision of Article 8.

The batch mixer/dryer was constructed in 1975 predating this rule, and is therefore not subject to 326 IAC 8-1-6.

The cold-mix asphalt production was also constructed or commenced in 1975 predating this rule, and is therefore not subject to 326 IAC 8-1-6.

326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)

The 18,000 liquid asphalt storage tank (Tank 19A), the two (2) 25,000 gallon liquid asphalt storage tanks (Tanks 19B and 19C), and the 13,800 gallon tach tank are not subject to 326 IAC 8-4-3 because each tank has a storage capacity less than 39,000 gallons and contain volatile organic compounds whose true vapor pressure is less than 10.5 kPa.

326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving)

The source is not subject to this rule. This rule applies to all asphalt paving application made after January 1, 1980. This source pre-dates this rule, therefore, 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving) does not apply.

326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties)

The requirements of this rule apply to stationary sources located in Lake, Porter, Clark and Floyd Counties that emit or have the potential to emit VOCs at levels equal to or greater than 25 tons per year in Lake and Porter Counties; 100 tons per year in Clark and Floyd Counties; and to any coating facility that emits or has the potential to emit 10 tons per year or greater in Lake, Porter, Clark or Floyd County.

This source is located in Porter County. The source has limited potential to emit VOC to less than 25 tons per year. Therefore, this rule does not apply.

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)

Pursuant to 326 IAC 8-9 on and after October 1, 1995 stationary vessels used to store Volatile Organic Liquid (VOL), must comply with the requirement of the rule if located in Clark, Floyd, Lake or Porter Counties. Stationary vessels with a capacity of less than thirty-nine thousand (39,000) gallons are subject to the reporting and record keeping provisions of section 6(a) and 6(b) of this rule and are exempt from all other provisions of this rule. The 18,000 gallon liquid asphalt storage tank (Tank 19A), the 20,400 gallon re-refined waste oil or No. 4 distillate fuel oil storage tank (Tank 18), the 9,800 gallon No. 2 distillate fuel oil storage tank (Tank 22), and the two (2) 25,000 gallon liquid asphalt storage tanks (Tanks 19B & 19C), are subject to this rule since they are VOL storage tanks that are located in Porter County. Since each has a storage capacity of less than 39,000 gallons, the Permittee shall keep the following records over the life of each VOL storage vessel:

- (a) The vessel identification number;
- (b) The vessel dimensions;
- (c) The vessel capacity; and
- (d) A description of the emission control equipment for each vessel.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance determination requirements applicable the source are as follows:

All testing requirements from previous approvals were incorporated into this FESOP. This source is subject to 40 CFR 60, Subpart I (Standards of Performance for Hot Mix Asphalt Facilities), and shall comply with the particulate matter (PM) and opacity compliance testing requirements of the rule. OAQ has also required PM-10 testing to demonstrate FESOP compliance.

Previous stack tests to comply with this requirement were conducted as follows:

- (a) PM, PM-10, and opacity testing was performed on the baghouse for the mixing and drying operations on June 7, 2006. The test indicated that the mixing and drying operation was in compliance with all applicable limits.

Repeat testing will be required five years after the last compliance stack test.

The compliance monitoring requirements applicable to this source are as follows:

- (a) Visible emission notations of the aggregate dryer and burner baghouse stack exhaust, and the conveying, material transfer points, and screening shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.
- (f) The Permittee shall record the pressure drop across the baghouse used in conjunction with the aggregate batch dryer/mixer, once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (g) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

- (h) In the event that bag failure has been observed:
- (1) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
 - (2) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

These monitoring conditions are necessary because the baghouses for the aggregate batch mixing and drying process must operate properly to ensure compliance with 326 IAC 2-8 (FESOP), 326 IAC 12, 40 CFR 60.90, Subpart I, and to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Non-attainment NSR) not applicable.

Recommendation

The staff recommends to the Commissioner that the FESOP be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on July 12, 2006.

Conclusion

The operation of this stationary batch mix asphalt pavement production plant shall be subject to the conditions of the attached FESOP Renewal No. F127-23350-00111.

Company Name:
Plant Location:
County:
Permit Reviewer:

Trieth-Riley Construction Company, Inc.
361 West U.S. Highway 6, Valparaiso, IN, 46383
Porter
Sangeetha Balakrishnan

**** aggregate dryer burner ****

The following calculations determine the amount of emissions created by the combustion of **re-refined waste oil**

@ 0.10 % chlorine and
@ 1.00 % sulfur, and
@ 1.00 % ash, from the aggregate dryer burner, based on 8,760 hours of use and
US EPA's AP-42, 5th Edition, Section 1.11 - Waste Oil Combustion, Tables 1.11-1, 1.11-2, and 1.11-3.

Criteria Pollutant:	<u>118 MMBtu/hr * 8,760 hr/yr</u>	* Ef (lb/1,000 gal) = (ton/yr)
	140,000 Btu/ gal * 2,000 lb/ton	
P M:	64.0 lb/1000 gal =	236.27 ton/yr
P M-10:	51.0 lb/1000 gal =	188.28 ton/yr
S O 2:	147.0 lb/1000 gal =	542.68 ton/yr
N O x:	19.0 lb/1000 gal =	70.14 ton/yr
V O C:	1.00 lb/1000 gal =	3.69 ton/yr
C O:	5.0 lb/1000 gal =	18.46 ton/yr
HCl:	6.60 lb/1000 gal =	24.37 ton/yr

The following calculations determine the amount of emissions created by the combustion of **No. 4 fuel oil**

@ 0.50 % sulfur, from the aggregate dryer burner, based on 8,760 hours of use and
US EPA's AP-42, 5th Edition, Section 1.3 - Fuel Oil Combustion, Tables 1.3-1, 1.3-2, and 1.3-5.

Criteria Pollutant:	<u>118 MMBtu/hr * 8,760 hr/yr</u>	* Ef (lb/1,000 gal) = (ton/yr)
	150,000 Btu/ gal * 2,000 lb/ton	
P M:	7.0 lb/1000 gal =	24.12 ton/yr
P M-10:	8.5 lb/1000 gal =	29.29 ton/yr
S O 2:	75.0 lb/1000 gal =	258.42 ton/yr
N O x:	47.0 lb/1000 gal =	161.94 ton/yr
V O C:	0.20 lb/1000 gal =	0.69 ton/yr
C O:	5.0 lb/1000 gal =	17.23 ton/yr

The following calculations determine the amount of emissions created by the combustion of **No. 2 fuel oil**

@ 0.40 % sulfur, from the aggregate dryer burner, based on 8,760 hours of use and
US EPA's AP-42, 5th Edition, Section 1.3 - Fuel Oil Combustion, Tables 1.3-1, 1.3-2, and 1.3-5.

Criteria Pollutant:	<u>118 MMBtu/hr * 8,760 hr/yr</u>	* Ef (lb/1,000 gal) = (ton/yr)
	140,000 Btu/ gal * 2,000 lb/ton	
P M:	2.0 lb/1000 gal =	7.38 ton/yr
P M-10:	3.3 lb/1000 gal =	12.18 ton/yr
S O 2:	62.8 lb/1000 gal =	231.84 ton/yr
N O x:	24.0 lb/1000 gal =	88.60 ton/yr
V O C:	0.20 lb/1000 gal =	0.74 ton/yr
C O:	5.0 lb/1000 gal =	18.46 ton/yr

The following calculations determine the amount of emissions created by **liquefied petroleum gas** combustion,

@ 0.01 % sulfur, from the batch-mix aggregate dryer burner, based on 8,760 hours of use and
and US EPA's AP-42, 5th Edition, Section 1.5 - Liquefied Petroleum Gas Combustion, Table 1.5-1.

Criteria Pollutant:	<u>118 MMBtu/hr * 8,760 hr/yr</u>	* Ef (lb/1,000 gal) = (ton/yr)
	91,500 Btu/ gal * 2,000 lb/ton	
P M:	0.6 lb/1000 gal =	3.39 ton/yr
P M-10:	0.6 lb/1000 gal =	3.39 ton/yr
S O 2:	0.0009 lb/1000 gal =	0.005 ton/yr
N O x:	21.0 lb/1000 gal =	118.62 ton/yr
V O C:	0.6 lb/1000 gal =	3.39 ton/yr
C O:	3.6 lb/1000 gal =	20.33 ton/yr

The following calculations determine the amount of emissions created by **natural gas combustion**, from the aggregate dryer burner, based on 8,760 hours of operation and US EPA's AP-42, 5th Edition, Section 1.4 - Natural Gas Combustion, Tables 1.4-1 and 1.4-2.

Criteria Pollutant:	<u>118 MMBtu/hr * 8,760 hr/yr</u>	* Ef (lb/MMcf) = (ton/yr)
	1000 Btu/cf * 2,000 lb/ton	
P M:	1.9 lb/MMcf =	0.98 ton/yr
P M-10:	7.6 lb/MMcf =	3.93 ton/yr
S O 2:	0.6 lb/MMcf =	0.31 ton/yr
N O x:	280.0 lb/MMcf =	144.72 ton/yr
V O C:	5.5 lb/MMcf =	2.84 ton/yr
C O:	84.0 lb/MMcf =	43.41 ton/yr

The maximum potential emissions from the aggregate dryer burner due to fuel combustion are the following:

Criteria Pollutant:		Worst Case Fuel
	P M: 236.27 ton/yr	Re-refined Waste Oil
	P M-10: 188.28 ton/yr	Re-refined Waste Oil
	S O 2: 542.68 ton/yr	Re-refined Waste Oil
	N O x: 161.94 ton/yr	No. 4 fuel Oil
	V O C: 3.69 ton/yr	Re-refined Waste Oil
	C O: 43.41 ton/yr	Natural Gas
	HCl: 24.37 ton/yr	Re-refined Waste Oil

**** Heaters ****

Heaters- 1.0 MMBtu/hr hot oil heater and 0.5 MMBtu/hr liquid asphalt storage tank heater

The following calculations determine the amount of emissions created by **#2 fuel oil** @ 0.4% sulfur, from the heaters based on 8,760 hours of operation and US EPA's AP-42, Section 1.3-Fuel oil combustion, Tables 1.3-1, 1.3-2, 1.3-3.

Criteria Pollutant:	$\frac{1.5 \text{ MMBtu/hr} * 8,760 \text{ hr/yr}}{140,000 \text{ Btu/gal} * 2,000 \text{ lb/ton}}$	* Ef (lb/1000 gal) = (ton/yr)
P M:	2.00 lb/1000 gal =	0.09 ton/yr
P M-10:	3.30 lb/1000 gal =	0.15 ton/yr
S O 2:	56.80 lb/1000 gal =	2.67 ton/yr
N O x:	20.00 lb/1000 gal =	0.94 ton/yr
V O C:	0.34 lb/1000 gal =	0.02 ton/yr
C O:	5.00 lb/1000 gal =	0.23 ton/yr

The following calculations determine the amount of emissions created by **butane** @ 0.01% sulfur, from the heaters based on 8,760 hours of operation and US EPA's AP-42, Section 1.5- Liquefied Petroleum Gas, Tables 1.5-1.

Criteria Pollutant:	$\frac{1.5 \text{ MMBtu/hr} * 8,760 \text{ hr/yr}}{102,000 \text{ Btu/gal} * 2,000 \text{ lb/ton}}$	* Ef (lb/1,000 gal) = (ton/yr)
P M:	0.6 lb/1000 gal =	0.04 ton/yr
P M-10:	0.6 lb/1000 gal =	0.04 ton/yr
S O 2:	0.00090 lb/1000 gal =	0.0001 ton/yr
N O x:	21.0 lb/1000 gal =	1.35 ton/yr
V O C:	0.6 lb/1000 gal =	0.04 ton/yr
C O:	3.6 lb/1000 gal =	0.23 ton/yr

The following calculations determine the amount of emissions created by **natural gas** combustion, from the heaters, based on 8,760 hours of operation and US EPA's AP-42, 5th Edition, Section 1.4 - Natural Gas Combustion, Tables 1.4-1 and 1.4-2.

Criteria Pollutant:	$\frac{1.5 \text{ MMBtu/hr} * 8,760 \text{ hr/yr}}{1000 \text{ Btu/cf} * 2,000 \text{ lb/ton}}$	* Ef (lb/MMcf) = (ton/yr)
P M:	1.9 lb/MMcf =	0.01 ton/yr
P M-10:	7.6 lb/MMcf =	0.05 ton/yr
S O 2:	0.6 lb/MMcf =	0.004 ton/yr
N O x:	100.0 lb/MMcf =	0.66 ton/yr
V O C:	5.5 lb/MMcf =	0.04 ton/yr
C O:	84.0 lb/MMcf =	0.55 ton/yr

The potential emissions from the heaters due to fuel combustion are the following:

Criteria Pollutant:		Worst Case Fuel
P M:	0.09 ton/yr	No. 2 Fuel Oil
P M-10:	0.15 ton/yr	No. 2 Fuel Oil
S O 2:	2.67 ton/yr	No. 2 Fuel Oil
N O x:	1.35 ton/yr	Liquefied Petroleum Gas (Butane)
V O C:	0.04 ton/yr	Natural Gas/Liquefied Petroleum Gas (Butane)
C O:	0.55 ton/yr	Natural Gas

**** aggregate drying: batch-mix plant ****

The following calculations determine the amount of worst case emissions created by aggregate mixing before controls, based on 8,760 hours of use and US EPA's AP-42, 5th Edition, Section 11.1 - Hot Mix Asphalt Plants, Tables 11.1-1, 11.1-5, and 11.1-6 for a batch mixer which has the capability of combusting either fuel oil, natural gas, or re-refined waste oil:

Criteria Pollutant:	$\frac{400 \text{ ton/hr} * 8,760 \text{ hr/yr}}{2000 \text{ lb/ton}}$	* Ef (lb/ton) = (ton/yr)
P M:	32 lb/ton =	56,064.00 ton/yr
P M-10:	4.5 lb/ton =	7,884.00 ton/yr
VOC:	0.036 lb/ton =	63.07 ton/yr
NOx:	0.12 lb/ton =	210.24 ton/yr
CO:	0.4 lb/ton =	700.80 ton/yr
HCl:	0.00021 lb/ton =	0.37 ton/yr

**** conveying / handling ****

The following calculations determine the amount of emissions created by material handling, based on 8,760 hours of use and AP-42, Section 13.2.4, Equation 1. The emission factor for calculating PM emissions is calculated as follows:
PM-10 Emissions:

$$E = k \cdot (0.0032)^k \cdot \left(\frac{U}{5} \right)^{1.3} \cdot \left(\frac{M}{2} \right)^{1.4}$$

= 5.23E-03 lb PM-10/ton
= 1.11E-02 lb PM/ton

where k = 0.35 (particle size multiplier for <10um)
= 0.74 (particle size multiplier for <30um)

U = 12 mph mean wind speed
M = 1.5 material moisture content (%)

$$\frac{400 \text{ ton/hr} \cdot 8,760 \text{ hrs/yr} \cdot E_f \text{ (lb/ton of material)}}{2,000 \text{ lb/ton}} = (\text{ton/yr})$$

Total PM-10 Emissions: 9.16 tons/yr
Total PM Emissions: 19.37 tons/yr

**** unpaved roads ****

The following calculations determine the amount of emissions created by vehicle traffic on unpaved industrial roads, based on 8,760 hours of use and AP-42, Section 13.2.2.2, 13.2.2-2, 13.2.2-1 (1/2006)

I. Triaxle Dump Trucks (Raw Materials)
9.5 trip/hr x

$$0.141 \text{ mile/trip} \times 2 \text{ (round trip)} \times 8,760 \text{ hr/yr} = 23,468 \text{ mile/yr}$$

$$E_f = k \cdot (s/12)^a \cdot (W/3)^b \cdot [(365-P)/365]$$

= 1.04 lb PM-10/mile
= 4.07 lb PM/mile

where k = 1.5 (particle size multiplier for PM-10)
k= 4.9 (particle size multiplier for PM)
s= 4.8 mean % silt content of unpaved roads
a= 0.9 Constant for PM-10
a= 0.7 Constant for PM
b= 0.45 Constant for PM and PM-10
W= 21 tons average vehicle weight
P= 125 number of days with at least 0.01 in of precipitation

PM-10: 1.04 lb/mi x 23,468 mi/yr = **12.18 tons/yr**
2000 lb/ton

PM: 4.07 lb/mi x 23,468 mi/yr = **47.79 tons/yr**
2000 lb/ton

II. Semi-Trucks (Raw Materials)
6.79 trip/hr x

$$0.141 \text{ mile/trip} \times 2 \text{ (round trip)} \times 8,760 \text{ hr/yr} = 16,773 \text{ mile/yr}$$

$$E_f = k \cdot (s/12)^a \cdot (W/3)^b \cdot [(365-P)/365]$$

= 1.18 lb PM-10/mile
= 4.64 lb PM/mile

where k = 1.5 (particle size multiplier for PM-10)
k= 4.9 (particle size multiplier for PM)
s= 4.8 mean % silt content of unpaved roads
a= 0.9 Constant for PM-10
a= 0.7 Constant for PM
b= 0.45 Constant for PM and PM-10
W= 28 tons average vehicle weight
P= 125 number of days with at least 0.01 in of precipitation

PM-10: 1.18 lb/mi x 16,773 mi/yr = **9.91 tons/yr**
2000 lb/ton

PM: 4.64 lb/mi x 16,773 mi/yr = **38.87 tons/yr**
2000 lb/ton

III. Single Axle Dump Trucks
8 trip/hr x

$$0.083 \text{ mile/trip} \times 2 \text{ (round trip)} \times 8,760 \text{ hr/yr} = 11,633 \text{ mile/yr}$$

$$E_f = k \cdot (s/12)^a \cdot (W/3)^b \cdot [(365-P)/365]$$

= 0.78 lb PM-10/mile
= 3.04 lb PM/mile

where k = 1.5 (particle size multiplier for PM-10)
k= 4.9 (particle size multiplier for PM)
s= 4.8 mean % silt content of unpaved roads
a= 0.9 Constant for PM-10
a= 0.7 Constant for PM
b= 0.45 Constant for PM and PM-10
W= 11 tons average vehicle weight
P= 125 number of days with at least 0.01 in of precipitation

PM-10: 0.78 lb/mi x 11,633 mi/yr = **4.51 tons/yr**
2000 lb/ton

PM: 3.04 lb/mi x 11,633 mi/yr = **17.71 tons/yr**
2000 lb/ton

IV. Tandem Axle Dump Trucks
5.33 trip/hr x 0.083 mile/trip x 2 (round trip) x 8,760 hr/yr = 7,751 mile/yr

$$E_f = k \cdot (s/12)^a \cdot (W/3)^b \cdot [(365-P)/365]$$

= 0.92 lb PM-10/mile
= 3.60 lb PM/mile

where k = 1.5 (particle size multiplier for PM-10)
k = 4.9 (particle size multiplier for PM)
s = 4.8 mean % silt content of unpaved roads
a = 0.9 Constant for PM-10
a = 0.7 Constant for PM
b = 0.45 Constant for PM and PM-10
W = 16 tons average vehicle weight
P = 125 number of days with at least 0.01 in of precipitation

PM-10: 0.92 lb/mi x 7,751 mi/yr = **3.56 tons/yr**
2000 lb/ton

PM: 3.60 lb/mi x 7,751 mi/yr = **13.96 tons/yr**
2000 lb/ton

V. Triaxle Dump Trucks
4 trip/hr x 0.083 mile/trip x 2 (round trip) x 8,760 hr/yr = 5,817 mile/yr

$$E_f = k \cdot (s/12)^a \cdot (W/3)^b \cdot [(365-P)/365]$$

= 1.04 lb PM-10/mile
= 4.07 lb PM/mile

where k = 1.5 (particle size multiplier for PM-10)
k = 4.9 (particle size multiplier for PM)
s = 4.8 mean % silt content of unpaved roads
a = 0.9 Constant for PM-10
a = 0.7 Constant for PM
b = 0.45 Constant for PM and PM-10
W = 21 tons average vehicle weight
P = 125 number of days with at least 0.01 in of precipitation

PM-10: 1.04 lb/mi x 5,817 mi/yr = **3.02 tons/yr**
2000 lb/ton

PM: 4.07 lb/mi x 5,817 mi/yr = **11.84 tons/yr**
2000 lb/ton

VI. Semi-Dump Trucks
2.86 trip/hr x 0.083 mile/trip x 2 (round trip) x 8,760 hr/yr = 4,159 mile/yr

$$E_f = k \cdot (s/12)^a \cdot (W/3)^b \cdot [(365-P)/365]$$

= 1.18 lb PM-10/mile
= 4.64 lb PM/mile

where k = 1.5 (particle size multiplier for PM-10)
k = 4.9 (particle size multiplier for PM)
s = 4.8 mean % silt content of unpaved roads
a = 0.9 Constant for PM-10
a = 0.7 Constant for PM
b = 0.45 Constant for PM and PM-10
W = 28 tons average vehicle weight
P = 125 number of days with at least 0.01 in of precipitation

PM-10: 1.18 lb/mi x 4,159 mi/yr = **2.46 tons/yr**
2000 lb/ton

PM: 4.64 lb/mi x 4,159 mi/yr = **9.64 tons/yr**
2000 lb/ton

VII. Quad Axle Trucks
3.2 trip/hr x 0.083 mile/trip x 2 (round trip) x 8,760 hr/yr = 4,653 mile/yr

$$E_f = k \cdot (s/12)^a \cdot (W/3)^b \cdot [(365-P)/365]$$

= 1.14 lb PM-10/mile
= 4.48 lb PM/mile

where k = 1.5 (particle size multiplier for PM-10)
k = 4.9 (particle size multiplier for PM)
s = 4.8 mean % silt content of unpaved roads
a = 0.9 Constant for PM-10
a = 0.7 Constant for PM
b = 0.45 Constant for PM and PM-10
W = 26 tons average vehicle weight
P = 125 number of days with at least 0.01 in of precipitation

PM-10: 1.14 lb/mi x 4,653 mi/yr = **2.66 tons/yr**
2000 lb/ton

PM: 4.48 lb/mi x 4,653 mi/yr = **10.43 tons/yr**
2000 lb/ton

VIII. Front End Loader
46.91 trip/hr x 0.06 mile/trip x 2 (round trip) x 8,760 hr/yr = 49,312 mile/yr

$E_f = k \cdot (s/12)^a \cdot (W/3)^b \cdot [(365-P)/365]$
 = 1.31 lb PM-10/mile
 = 5.12 lb PM/mile
 where k = 1.5 (particle size multiplier for PM-10)
 k = 4.9 (particle size multiplier for PM)
 s = 4.8 mean % silt content of unpaved roads
 a = 0.9 Constant for PM-10
 a = 0.7 Constant for PM
 b = 0.45 Constant for PM and PM-10
 W = 35 tons average vehicle weight
 P = 125 number of days with at least 0.01 in of precipitation

PM-10: 1.31 lb/mi x 49,312 mi/yr = **32.20 tons/yr**
 2000 lb/ton
PM: 5.12 lb/mi x 49,312 mi/yr = **126.36 tons/yr**
 2000 lb/ton

Total PM Emissions from Unpaved Roads = 276.60 tons/yr
Total PM-10 Emissions from Unpaved Roads = 70.50 tons/yr

**** storage ****

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

Material	Silt Content (wt %)	Pile Size (acres)	Storage Capacity (tons)	PM EF (lb/acre/day)	PM Emissions (tons/yr)	PM-10 Emissions (35% of PM) (tons/yr)
Sand	1.1	0.75	30,000	1.27	0.17	0.06
Stone	1.2	1.62	60,000	1.39	0.41	0.14
Slag	0.9	0.86	0	1.04	0.16	0.06
Gravel	0.9	0.62	0	1.04	0.12	0.04
RAP	0.8	3.59	10,000	0.93	0.61	0.21
Total					0.87	0.30

Sample Calculation:

$E_f = 1.7 \cdot (s/1.5) \cdot (365-p)/235 \cdot (f/15)$
 = 1.74 lb/acre/day
 where s = 1.5 % silt
 p = 125 days of rain greater than or equal to 0.01 inches
 f = 15 % of wind greater than or equal to 12 mph

**** load-out ****

The following calculations determine the amount of emissions created by plant load-out, based on 8,760 hours of use and US EPA's AP-42, Section 11.1, Tables 11.1-14 through 11.1-16.

Maximum throughput = 400 tons/hr

$PM/PM_{10} E_f = 0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$
 = 5.22E-04 lb PM or PM-10 per ton of asphalt mix produced
 where V = -0.5 asphalt volatility (default value of -0.5 used per AP-42)
 T = 325 hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)

PM/PM10 = 0.91 tons/yr
Total PAH HAPs = 0.04 tons/yr (5.93% of Organic PM emissions per AP-42)*
Phenol = 0.01 tons/yr (1.18% of Organic PM emissions per AP-42)*

$TOC E_f = 0.0172(-V)e^{((0.0251)(T+460)-20.43)}$
 = 4.16E-03 lb TOC per ton of asphalt mix produced
 where V = -0.5 asphalt volatility (default value of -0.5 used per AP-42)
 T = 325 hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)

VOC = 6.85 tons/yr (94% of TOC emissions per AP-42)
Worst Case Single HAP (Xylenes) = 0.04 tons/yr (0.49% of TOC emissions per AP-42)
Total Volatile HAPs = 0.11 tons/yr (1.5% of TOC emissions per AP-42)

$CO E_f = 0.00558(-V)e^{((0.0251)(T+460)-20.43)}$
 = 1.35E-03 lb CO per ton of asphalt mix produced
 where V = -0.5 asphalt volatility (default value of -0.5 used per AP-42)
 T = 325 hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)

CO = 2.36 tons/yr

**** silo filling ****

The following calculations determine the amount of emissions created by silo filling, based on 8,760 hours of use and US EPA's AP-42, Section 11.1, Tables 11.1-14 through 11.1-16.

$$\begin{aligned} \text{PM/PM10 Ef} &= 0.000332 + 0.00105(-V)e^{((0.0251)(T+460)-20.43)} \\ &= 5.86E-04 \text{ lb PM or PM-10 per ton of asphalt mix produced} \\ \text{where V} &= -0.5 \text{ asphalt volatility (default value of -0.5 used per AP-42)} \\ \text{T} &= 325 \text{ hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)} \\ \text{PM/PM10} &= \mathbf{1.03 \text{ tons/yr}} \\ \text{Total PAH HAPs} &= \mathbf{0.07 \text{ tons/yr}} \quad (11.40\% \text{ of Organic PM emissions per AP-42})^* \end{aligned}$$

$$\begin{aligned} \text{TOC Ef} &= 0.0504(-V)e^{((0.0251)(T+460)-20.43)} \\ &= 1.22E-02 \text{ lb TOC per ton of asphalt mix produced} \\ \text{where V} &= -0.5 \text{ asphalt volatility (default value of -0.5 used per AP-42)} \\ \text{T} &= 325 \text{ hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)} \\ \text{VOC} &= \mathbf{21.35 \text{ tons/yr}} \quad (100\% \text{ of TOC emissions per AP-42)} \\ \text{Worst Case Single HAP (Formaldehyde)} &= \mathbf{0.15 \text{ tons/yr}} \quad (0.69\% \text{ of TOC emissions per AP-42)} \\ \text{Total Volatile HAPs} &= \mathbf{0.28 \text{ tons/yr}} \quad (1.3\% \text{ of TOC emissions per AP-42)} \end{aligned}$$

$$\begin{aligned} \text{CO Ef} &= 0.00488(-V)e^{((0.0251)(T+460)-20.43)} \\ &= 1.18E-03 \text{ lb CO per ton of asphalt mix produced} \\ \text{where V} &= -0.5 \text{ asphalt volatility (default value of -0.5 used per AP-42)} \\ \text{T} &= 325 \text{ hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)} \\ \text{CO} &= \mathbf{2.07 \text{ tons/yr}} \end{aligned}$$

* Organic PM emissions are calculated using the equation from Table 11.1-14.

$$\begin{aligned} \text{Organic PM Ef} &= 0.00141(-V)e^{((0.0251)(T+460)-20.43)} \\ &= 3.41E-04 \text{ lb PM or PM-10 per ton of asphalt mix produced} \\ \text{where V} &= -0.5 \text{ asphalt volatility (default value of -0.5 used per AP-42)} \\ \text{T} &= 325 \text{ hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)} \end{aligned}$$

****cold mix VOC storage emissions ****

The following calculations determine the amount of VOC emissions created by the application of stockpile mix containing cutback asphalt, of which 21% by weight of VOC is evaporated, based on 8,760 hours of operation.

$$\begin{aligned} \text{VOC Emission Factor} &= \mathbf{0.21 \text{ weight percent flash-off of cold mix}} \\ \text{Potential Throughput (tons/yr)} &= \mathbf{3,504,000 \text{ tons/yr stockpile mix}} \end{aligned}$$

$$\begin{aligned} \text{Potential VOC Emissions (tons/yr)} &= \text{Potential Throughput (tons/yr)} * \text{VOC Emission Factor (wt\% flash-off)} \\ \text{Potential VOC Emissions} &= \mathbf{7,358.40 \text{ tons/yr}} \end{aligned}$$

* Weight percent flash-off is based on use of gelled asphalt containing a maximum of 10% of the liquid binder by weight of VOC solvent and 21% by weight of VOC solvent evaporating.

** summary of source emissions before controls **	
Criteria Pollutants:	
	P M: 56,599.14 ton/yr
	P M-10: 8,154.33 ton/yr
	S O 2: 545.35 ton/yr
	N O x: 211.59 ton/yr
	V O C: 7,449.71 ton/yr
	C O: 705.78 ton/yr
	HCl: 24.37 ton/yr

**** source emissions after limitations/controls ****

In order to qualify for the FESOP program, this source must limit PM-10, SO₂, NO_x, and CO emissions to 99.9 tons per year, HCl to 9.90 tons/year and VOC to 24.90 tons/year.

SO₂ emissions from the **aggregate dryer burner** must be limited as follows:

SO₂ limited emissions= 99.9 tons per year - 2.67 tpy SO₂ from the heaters 97.23 tons per year

NO_x emissions from the **aggregate dryer burner** must be limited as follows:

NO_x limited emissions= 99.9 tons per year - 1.35 tpy NO_x from the heaters 98.55 tons per year

HCl emissions from the **aggregate dryer burner** must be limited to 9.90 tons per year

* Emissions of PM and PM-10 from aggregate drying operations are controlled with a 99.90% control efficiency.

The following calculations determine the amount of emissions created by re-refined waste oil @ 1.00 % sulfur based on a fuel usage limitation of 1,322,918 gal/yr:

Re-refined Waste Oil:	<u>1,323</u> kcal/yr	* Ef (lb/1,000 gal) = (ton/yr)
	2,000 lb/ton	
P M:	64.0 lb/1000 gal =	0.04 ton/yr*
P M-10:	51.0 lb/1000 gal =	0.03 ton/yr*
S O 2:	147.0 lb/1000 gal =	97.23 ton/yr
N O x:	19.0 lb/1000 gal =	12.57 ton/yr
V O C:	1.0 lb/1000 gal =	0.66 ton/yr
C O:	5.0 lb/1000 gal =	3.31 ton/yr
HCl:	6.60 lb/1000 gal =	4.37 ton/yr

The following calculations determine the amount of emissions created by No. 4 fuel oil @ 0.50 % sulfur based on a fuel usage limitation of 2,592,919 gal/yr:

No. 4 Fuel Oil:	<u>2,593</u> kcal/yr	* Ef (lb/1,000 gal) = (ton/yr)
	2,000 lb/ton	
P M:	7.0 lb/1000 gal =	9.08E-03 ton/yr*
P M-10:	8.5 lb/1000 gal =	1.10E-02 ton/yr*
S O 2:	75.0 lb/1000 gal =	97.23 ton/yr
N O x:	47.0 lb/1000 gal =	60.93 ton/yr
V O C:	0.2 lb/1000 gal =	0.26 ton/yr
C O:	5.0 lb/1000 gal =	6.48 ton/yr

The following calculations determine the amount of emissions created by No. 2 fuel oil @ 0.40 % sulfur based on a fuel usage limitation of 3,096,639 gal/yr:

No. 2 Fuel Oil:	<u>3,097</u> kcal/yr	* Ef (lb/1,000 gal) = (ton/yr)
	2,000 lb/ton	
P M:	2.0 lb/1000 gal =	3.10E-03 ton/yr*
P M-10:	3.3 lb/1000 gal =	5.11E-03 ton/yr*
S O 2:	62.8 lb/1000 gal =	97.23 ton/yr
N O x:	24.0 lb/1000 gal =	37.16 ton/yr
V O C:	0.2 lb/1000 gal =	0.31 ton/yr
C O:	5.0 lb/1000 gal =	7.74 ton/yr

The following calculations determine the amount of emissions created by Liquefied Petroleum Gas based on a fuel usage limitation of 9,385,462 gal/yr:

Liquefied Petroleum Gas:	<u>9,385</u> Kgal/yr	* Ef (lb/1,000 gal) = (ton/yr)
	2,000 lb/ton	
P M:	0.6 lb/1000 gal =	2.82E-03 ton/yr*
P M-10:	0.6 lb/1000 gal =	2.82E-03 ton/yr*
S O 2:	0.0 lb/1000 gal =	0.004 ton/yr
N O x:	21.0 lb/1000 gal =	98.55 ton/yr
V O C:	0.6 lb/1000 gal =	2.82 ton/yr
C O:	3.6 lb/1000 gal =	16.89 ton/yr

The following calculations determine the amount of emissions created by Natural Gas based on a fuel usage limitation of 703,910 cf/yr:

Natural Gas:	<u>704</u> MMcf/yr	* Ef (lb/MMcf) = (ton/yr)
	2,000 lb/ton	
P M:	1.9 lb/MMcf =	6.69E-04 ton/yr*
P M-10:	7.6 lb/MMcf =	2.67E-03 ton/yr*
S O 2:	0.6 lb/MMcf =	0.21 ton/yr
N O x:	280.0 lb/MMcf =	98.55 ton/yr
V O C:	5.5 lb/MMcf =	1.94 ton/yr
C O:	84.0 lb/MMcf =	29.56 ton/yr

Criteria Pollutant:		Worst Case Fuel
	P M:	0.04 ton/yr*
	P M-10:	0.03 ton/yr*
	S O 2:	97.23 ton/yr
	N O x:	98.55 ton/yr
	V O C:	2.82 ton/yr
	C O:	29.56 ton/yr
	HCl:	4.37 ton/yr
		Re-refined Waste Oil
		Re-refined Waste Oil
		Re-refined Waste Oil
		Natural Gas
		Liquified Petroleum Gas
		Natural Gas
		Re-refined Waste Oil

**** Fuel Usage Limitations ****

Fuel: waste oil

97.23 tons SO₂/yr limited * 7383.43 $\frac{\text{Kgals}}{\text{year potential}}$ = 1322.918 $\frac{\text{Kgals}}{\text{year limited}}$
542.68 tons SO₂/yr potential

9.90 tons HCl/yr limited * 7383.43 $\frac{\text{Kgals}}{\text{year potential}}$ = 3000.000 $\frac{\text{Kgals}}{\text{year limited}}$
24.37 tons HCl/yr potential

Fuel: No. 4 Fuel Oil

97.23 tons SO₂/yr limited * 6891.20 $\frac{\text{Kgals}}{\text{year potential}}$ = 2592.92 $\frac{\text{Kgals}}{\text{year limited}}$
258.42 tons SO₂/yr potential

Fuel: No. 2 Fuel Oil

97.23 tons SO₂/yr limited * 7383.43 $\frac{\text{Kgals}}{\text{year potential}}$ = 3096.64 $\frac{\text{Kgals}}{\text{year limited}}$
231.84 tons SO₂/yr potential

Fuel: Liquified petroleum gas

98.55 tons NO_x/yr limited * 11297.05 $\frac{\text{Kgals}}{\text{year potential}}$ = 9385.46 $\frac{\text{Kgals}}{\text{year limited}}$
118.62 tons NO_x/yr potential

Fuel: Natural Gas

98.55 tons NO_x/yr limited 1033.68 $\frac{\text{MMcf}}{\text{year potential}}$ 703.91 $\frac{\text{MMcf}}{\text{year limited}}$
144.72 tons NO_x/yr potential

**** Fuel Equivalence Limitations ****

Fuel equivalence limit for #4 F.O based on SO₂ emissions from waste oil:

$\frac{258.42 \text{ \#4 F.O. potential emissions (ton/yr)}}{6891.20 \text{ \#4 F.O. potential usage (kgal/yr)}}$ / $\frac{542.68 \text{ waste oil potential emissions (ton/yr)}}{7383.43 \text{ waste oil potential usage (Kgal/yr)}}$

0.510 $\frac{\text{Kgal waste oil burned}}{\text{Kgal \#4 F.O. burned}}$

Fuel equivalence limit for #2 F.O based on SO₂ emissions from waste oil:

$\frac{231.84 \text{ \#2 F.O. potential emissions (ton/yr)}}{7383.43 \text{ \#2 F.O. potential usage (kgal/yr)}}$ / $\frac{542.68 \text{ waste oil potential emissions (ton/yr)}}{7383.43 \text{ waste oil potential usage (Kgal/yr)}}$

0.4272 $\frac{\text{Kgal waste oil burned}}{\text{Kgal \#2 F.O. burned}}$

Fuel equivalence limit for Liquified Petroleum Gas (LPG) based on SO₂ emissions from waste oil:

$\frac{0.005 \text{ LPG potential emissions (ton/yr)}}{11297.05 \text{ LPG potential usage (kgal/yr)}}$ / $\frac{542.68 \text{ waste oil potential emissions (ton/yr)}}{7383.43 \text{ waste oil potential usage (Kgal/yr)}}$

0.00001 $\frac{\text{Kgal waste oil burned}}{\text{Kgal LPG burned}}$

Fuel equivalence limit for natural gas based on SO₂ emissions from waste oil:

$\frac{0.31 \text{ Natural gas potential emissions (ton/yr)}}{1033.68 \text{ Natural gas potential usage (MMcf/yr)}}$ / $\frac{542.68 \text{ waste oil potential emissions (ton/yr)}}{7383.43 \text{ waste oil potential usage (Kgal/yr)}}$

0.00408 $\frac{\text{Kgal waste oil burned}}{\text{MMcf natural gas burned}}$

Fuel equivalence limit for waste oil based on NOx emissions from natural gas:

$$\frac{70.14 \text{ waste oil potential emissions (ton/yr)}}{7383.43 \text{ waste oil potential usage (Kgal/yr)}} \div \frac{144.72 \text{ natural gas potential emissions (ton/yr)}}{1033.68 \text{ natural gas potential usage (MMcf/yr)}}$$

$$0.0679 \frac{\text{MMcf natural gas burned}}{\text{Kgal waste oil burned}}$$

Fuel equivalence limit for #4 F.O based on NOx emissions from natural gas:

$$\frac{161.94 \text{ #4 F.O. potential emissions (ton/yr)}}{6891.20 \text{ #4 F.O. potential usage (kgal/yr)}} \div \frac{144.72 \text{ natural gas potential emissions (ton/yr)}}{1033.68 \text{ natural gas potential usage (MMcf/yr)}}$$

$$0.168 \frac{\text{MMcf natural gas burned}}{\text{Kgal #4 F.O burned}}$$

Fuel equivalence limit for #2 F.O based on NOx emissions from natural gas:

$$\frac{88.60 \text{ #2 F.O. potential emissions (ton/yr)}}{7383.43 \text{ #2 F.O. potential usage (kgal/yr)}} \div \frac{144.72 \text{ natural gas potential emissions (ton/yr)}}{1033.68 \text{ natural gas potential usage (MMcf/yr)}}$$

$$0.086 \frac{\text{MMcf natural gas burned}}{\text{Kgal #2 F.O burned}}$$

Fuel equivalence limit for LPG based on NOx emissions from natural gas:

$$\frac{118.62 \text{ LPG potential emissions (ton/yr)}}{11297.05 \text{ LPG potential usage (kgal/yr)}} \div \frac{144.72 \text{ natural gas potential emissions (ton/yr)}}{1033.68 \text{ natural gas potential usage (MMcf/yr)}}$$

$$0.075 \frac{\text{MMcf natural gas burned}}{\text{Kgal LPG burned}}$$

Note : The fuel equivalence limit is calculated using the emission factor for Propane gas.
The same equivalences were obtained when calculated using butane gas

**** aggregate drying: batch-mix plant - Limited Throughput****

CO emissions from the aggregate dryer burner must be limited as follows:

CO limited emissions= 99.9 tons per year - 1.18 tpy CO from the heaters, load out and silo filling 98.72 tons per year

Annual throughput limit = 493,600 tons asphalt / year

* Emissions of PM and PM-10 from drying operations are controlled with a 99.90% control efficiency.

The following calculations determine the amount of worst case emissions created by aggregate mixing before controls, based on 8,760 hours of use and US EPA's AP-42, 5th Edition, Section 11.1 - Hot Mix Asphalt Plants, Tables 11.1-1, 11.1-5, and 11.1-6 for a batch mixer which has the capability of combusting either fuel oil, natural gas, or re-refined waste oil:

Criteria Pollutant:	493,600 ton/yr 2000 lb/ton		* Ef (lb/ton) = (ton/yr)
P M:	32	lb/ton =	7.90 ton/yr
P M-10:	4.5	lb/ton =	1.11 ton/yr
VOC:	0.036	lb/ton =	8.88 ton/yr
NOx:	0.12	lb/ton =	29.62 ton/yr
CO:	0.4	lb/ton =	98.72 ton/yr
HCl:	0.00021	lb/ton =	0.05 ton/yr

**** load-out Limited Emissions ****

The following calculations determine the amount of emissions created by plant load-out, based on 8,760 hours of use and US EPA's AP-42, Section 11.1, Tables 11.1-14 through 11.1-16.

Maximum throughput = 56 tons/hr

$$\begin{aligned} \text{PM/PM10 Ef} &= 0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)} \\ &= 5.22E-04 \text{ lb PM or PM-10 per ton of asphalt mix produced} \\ \text{where V} &= -0.5 \text{ asphalt volatility (default value of -0.5 used per AP-42)} \\ \text{T} &= 325 \text{ hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)} \end{aligned}$$

PM/PM10 = 0.13 tons/yr
Total PAH HAPs = 0.00 tons/yr (5.93% of Organic PM emissions per AP-42)*
Phenol = 0.00 tons/yr (1.18% of Organic PM emissions per AP-42)*

$$\begin{aligned} \text{TOC Ef} &= 0.0172(-V)e^{((0.0251)(T+460)-20.43)} \\ &= 4.16E-03 \text{ lb TOC per ton of asphalt mix produced} \\ \text{where V} &= -0.5 \text{ asphalt volatility (default value of -0.5 used per AP-42)} \\ \text{T} &= 325 \text{ hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)} \end{aligned}$$

VOC = 0.96 tons/yr (94% of TOC emissions per AP-42)
Worst Case Single HAP (Xylenes) = 0.01 tons/yr (0.49% of TOC emissions per AP-42)
Total Volatile HAPs = 0.02 tons/yr (1.5% of TOC emissions per AP-42)

$$\begin{aligned} \text{CO Ef} &= 0.00558(-V)e^{((0.0251)(T+460)-20.43)} \\ &= 1.35E-03 \text{ lb CO per ton of asphalt mix produced} \\ \text{where V} &= -0.5 \text{ asphalt volatility (default value of -0.5 used per AP-42)} \\ \text{T} &= 325 \text{ hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)} \end{aligned}$$

CO = 0.33 tons/yr

**** silo filling - Limited Emissions****

The following calculations determine the amount of emissions created by silo filling, based on 8,760 hours of use and US EPA's AP-42, Section 11.1, Tables 11.1-14 through 11.1-16.

$$\begin{aligned} \text{PM/PM10 Ef} &= 0.000332 + 0.00105(-V)e^{((0.0251)(T+460)-20.43)} \\ &= 5.86E-04 \text{ lb PM or PM-10 per ton of asphalt mix produced} \\ \text{where V} &= -0.5 \text{ asphalt volatility (default value of -0.5 used per AP-42)} \\ \text{T} &= 325 \text{ hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)} \end{aligned}$$

PM/PM10 = 0.14 tons/yr
Total PAH HAPs = 0.01 tons/yr (11.40% of Organic PM emissions per AP-42)*

$$\begin{aligned} \text{TOC Ef} &= 0.0504(-V)e^{((0.0251)(T+460)-20.43)} \\ &= 1.22E-02 \text{ lb TOC per ton of asphalt mix produced} \\ \text{where V} &= -0.5 \text{ asphalt volatility (default value of -0.5 used per AP-42)} \\ \text{T} &= 325 \text{ hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)} \end{aligned}$$

VOC = 3.01 tons/yr (100% of TOC emissions per AP-42)
Worst Case Single HAP (Formaldehyde) = 0.02 tons/yr (0.69% of TOC emissions per AP-42)
Total Volatile HAPs = 0.04 tons/yr (1.3% of TOC emissions per AP-42)

$$\begin{aligned} \text{CO Ef} &= 0.00488(-V)e^{((0.0251)(T+460)-20.43)} \\ &= 1.18E-03 \text{ lb CO per ton of asphalt mix produced} \\ \text{where V} &= -0.5 \text{ asphalt volatility (default value of -0.5 used per AP-42)} \\ \text{T} &= 325 \text{ hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)} \end{aligned}$$

CO = 0.29 tons/yr

* Organic PM emissions are calculated using the equation from Table 11.1-14.

$$\begin{aligned} \text{Organic PM Ef} &= 0.00141(-V)e^{((0.0251)(T+460)-20.43)} \\ &= 3.41E-04 \text{ lb PM or PM-10 per ton of asphalt mix produced} \\ \text{where V} &= -0.5 \text{ asphalt volatility (default value of -0.5 used per AP-42)} \\ \text{T} &= 325 \text{ hot mix asphalt (HMA) mix temperature in degrees F (default value of 325 used per AP-42)} \end{aligned}$$

**** cold mix VOC storage emissions - limited emissions ****

The following calculations determine the amount of VOC emissions created by the application of liquid binder for cold mix stockpiles, based on the source's use of cut back asphalt with solvent as the liquid binder type. Cut back asphalt with solvent is defined with the following properties:

Cutback asphalt with solvent binder:

Maximum weight % of VOC solvent in binder	10.0%
Weight % VOC solvent in binder that evaporates:	21.0%
Volume % of diluent allowed =	7% (per 326 IAC 8-5-2)

In order to qualify for the FESOP program, this source must limit VOC emissions to less than 24.9 tons per year. Deducting the VOC emitted from other activities, the allowable VOC solvent usage as diluent in the liquid binder used in the production of cold mix asphalt from the plant is:
24.9 tons VOC/yr - 12.90 tons VOC/yr from other sources after controls = 12.00 tons of VOC emitted per year

This is equivalent to limiting the usage of cold mix asphalt with solvent liquid binder to less than the following:
57.16 tons of VOC solvent per 12 consecutive month period for other asphalt with solvent binder.

**** source emissions after controls/limitations ****

Aggregate dryer burner / drying:		nonfugitive	
P M:	56,064.00 ton/yr x	0.10%	emitted after controls = 56.06 ton/yr
P M-10:	7,884.00 ton/yr x	0.10%	emitted after controls = 7.88 ton/yr
S O 2:	97.23 ton/yr x	100.00%	emitted after controls = 97.23 ton/yr
N O x:	98.55 ton/yr x	100.00%	emitted after controls = 98.55 ton/yr
V O C:	8.88 ton/yr x	100.00%	emitted after controls = 8.88 ton/yr
C O:	98.72 ton/yr x	100.00%	emitted after controls = 98.72 ton/yr
HCl:	4.37 ton/yr x	100.00%	emitted after controls = 4.37 ton/yr
Heaters:		nonfugitive	
P M:	0.09 ton/yr x	100.00%	emitted after controls = 0.09 ton/yr
P M-10:	0.15 ton/yr x	100.00%	emitted after controls = 0.15 ton/yr
S O 2:	2.67 ton/yr x	100.00%	emitted after controls = 2.67 ton/yr
N O x:	1.35 ton/yr x	100.00%	emitted after controls = 1.35 ton/yr
V O C:	0.04 ton/yr x	100.00%	emitted after controls = 0.04 ton/yr
C O:	0.55 ton/yr x	100.00%	emitted after controls = 0.55 ton/yr
conveying/handling:		fugitive	
P M:	19.37 ton/yr x	50%	emitted after controls = 9.68 ton/yr
P M-10:	9.16 ton/yr x	50%	emitted after controls = 4.58 ton/yr
unpaved roads:		fugitive	
P M:	276.60 ton/yr x	50%	emitted after controls = 138.30 ton/yr
P M-10:	70.50 ton/yr x	50%	emitted after controls = 35.25 ton/yr
storage piles:		fugitive	
P M:	0.87 ton/yr x	50%	emitted after controls = 0.43 ton/yr
P M-10:	0.30 ton/yr x	50%	emitted after controls = 0.15 ton/yr
load-out and silo filling:		fugitive	
P M:	0.27 ton/yr x	100%	emitted after controls = 0.27 ton/yr
P M-10:	0.27 ton/yr x	100%	emitted after controls = 0.27 ton/yr
V O C:	3.97 ton/yr x	100%	emitted after controls = 3.97 ton/yr
C O:	0.62 ton/yr x	100%	emitted after controls = 0.62 ton/yr
cold mix storage		fugitive	
VOC:	12.00 ton/yr x	100.00%	emitted after controls = 12.00 ton/yr

** summary of source emissions after limitation and controls **			
Criteria Pollutant:	Non-Fugitive	Fugitive	Total
PM:	56.16 ton/yr	148.69 ton/yr	204.85 ton/yr
PM-10:	8.04 ton/yr	40.25 ton/yr	48.29 ton/yr
S O 2:	99.90 ton/yr	0.00 ton/yr	99.90 ton/yr
N O x:	99.90 ton/yr	0.00 ton/yr	99.90 ton/yr
V O C:	8.92 ton/yr	15.98 ton/yr	24.90 ton/yr
C O:	99.27 ton/yr	0.62 ton/yr	99.90 ton/yr
HCl:	4.37 ton/yr	0.00 ton/yr	4.37 ton/yr

Hazardous Air Pollutants (HAPs)

**** aggregate dryer burner****

The following calculations determine the amount of HAP emissions created by the combustion of distillate fuel oil before & after controls @ 0.40 % sulfur, from the aggregate dryer burner, based on 8,760 hours of use and US EPA's AP-42, 5th Edition, Section 1.3 - Fuel Oil Combustion, Table 1.3-10.

Hazardous Air Pollutants (HAPs):

		118 MMBtu/hr * 8760 hr/yr	* Ef (lb/10 ¹² Btu) = (ton/yr)	
		2,000 lb/ton	Potential To Emit	Limited Emissions
Arsenic:	4 lb/10 ¹² Btu =		2.07E-03 ton/yr	2.07E-06 ton/yr
Beryllium:	3 lb/10 ¹² Btu =		1.55E-03 ton/yr	1.55E-06 ton/yr
Cadmium:	3 lb/10 ¹² Btu =		1.55E-03 ton/yr	1.55E-06 ton/yr
Chromium:	3 lb/10 ¹² Btu =		1.55E-03 ton/yr	1.55E-06 ton/yr
Lead:	9 lb/10 ¹² Btu =		4.65E-03 ton/yr	4.65E-06 ton/yr
Manganese:	6 lb/10 ¹² Btu =		3.10E-03 ton/yr	3.10E-06 ton/yr
Mercury:	3 lb/10 ¹² Btu =		1.55E-03 ton/yr	1.55E-06 ton/yr
Nickel:	3 lb/10 ¹² Btu =		1.55E-03 ton/yr	1.55E-06 ton/yr
Selenium:	15 lb/10 ¹² Btu =		7.75E-03 ton/yr	7.75E-06 ton/yr
Total HAPs =			2.53E-02 ton/yr	2.53E-05 ton/yr

**** aggregate drying: batch-mix plant ****

The following calculations determine the amount of HAP emissions created by aggregate drying before & after controls, based on 8,760 hours of use and USEPA's AP-42, 5th Edition, Section 11.1 - Hot Mix Asphalt Plants, Table 11.1-9 for a batch mix dryer which can be fired with fuel oil. The HAP emission factors represent the worst case emissions from both distillate fuel and waste-oil.

Pollutant:

Ef	lb/ton x	400	ton/hr x	8760 hr/yr	Maximum throughput
		2000	lb/ton		
Ef	lb/ton x	493,600	ton/yr	Limited throughput	
		2000	lb/ton		

Hazardous Air Pollutants (HAPs):

		Potential To Emit	Limited Emissions
Acetaldehyde:	3.20E-04 lb/ton =	0.56 ton/yr	0.08 ton/yr
Benzene:	2.80E-04 lb/ton =	0.49 ton/yr	0.07 ton/yr
Ethylbenzene:	2.20E-03 lb/ton =	3.85 ton/yr	0.54 ton/yr
Formaldehyde:	7.40E-04 lb/ton =	1.30 ton/yr	0.18 ton/yr
Quinone:	2.70E-04 lb/ton =	0.47 ton/yr	0.07 ton/yr
Toluene:	1.00E-03 lb/ton =	1.75 ton/yr	0.25 ton/yr
Total PAH Haps:	2.30E-04 lb/ton =	0.40 ton/yr	0.06 ton/yr
Xylene:	2.70E-03 lb/ton =	4.73 ton/yr	0.67 ton/yr
Total HAPs =		13.56 ton/yr	1.91 ton/yr

**** summary of source HAP emissions potential to emit ****

Hazardous Air Pollutants (HAPs):

Acetaldehyde:	0.561 ton/yr
Arsenic:	0.002 ton/yr
Benzene:	0.491 ton/yr
Beryllium:	0.002 ton/yr
Cadmium:	0.002 ton/yr
Chromium:	0.002 ton/yr
Ethyl benzene:	3.854 ton/yr
Formaldehyde:	1.296 ton/yr
HCl:	24.365 ton/yr
Lead:	0.005 ton/yr
Manganese:	0.003 ton/yr
Mercury:	0.002 ton/yr
Quinone:	0.473 ton/yr
Nickel:	0.002 ton/yr
Selenium:	0.008 ton/yr
Toluene:	1.752 ton/yr
Total PAH:	0.403 ton/yr
Xylene:	4.730 ton/yr
Total:	37.951 ton/yr

**** summary of source HAP limited emissions ****

Hazardous Air Pollutants (HAPs):

Acetaldehyde:	0.079 ton/yr
Arsenic:	2.07E-06 ton/yr
Benzene:	0.069 ton/yr
Beryllium:	1.55E-06 ton/yr
Cadmium:	1.55E-06 ton/yr
Chromium:	1.55E-06 ton/yr
Ethyl benzene:	0.543 ton/yr
Formaldehyde:	0.183 ton/yr
HCl:	4.366 ton/yr
Lead:	0.000 ton/yr
Manganese:	3.10E-06 ton/yr
Mercury:	1.55E-06 ton/yr
Quinone:	0.067 ton/yr
Nickel:	1.55E-06 ton/yr
Selenium:	7.75E-06 ton/yr
Toluene:	0.247 ton/yr
Total PAH:	0.057 ton/yr
Xylene:	0.666 ton/yr
Total:	6.276 ton/yr

**** miscellaneous ****

326 IAC 7 Compliance Calculations:

The following calculations determine the maximum sulfur content of re-refined waste oil allowable by 326 IAC 7:

$$\begin{aligned} & 1.6 \text{ lb/MMBtu} \times 140,000 \text{ Btu/gal} = 224 \text{ lb/1000gal} \\ & 224 \text{ lb/1000gal} / 147 \text{ lb/1000 gal} = 1.5 \% \\ & \text{Sulfur content must be less than or equal to } 1.5\% \text{ to comply with 326 IAC 7.} \end{aligned}$$

The following calculations determine the maximum sulfur content of # 4 fuel oil allowable by 326 IAC 7:

$$\begin{aligned} & 1.6 \text{ lb/MMBtu} \times 150,000 \text{ Btu/gal} = 240 \text{ lb/1000gal} \\ & 240 \text{ lb/1000gal} / 150 \text{ lb/1000 gal} = 1.6 \% \\ & \text{Sulfur content must be less than or equal to } 1.6\% \text{ to comply with 326 IAC 7.} \end{aligned}$$

The following calculations determine the maximum sulfur content of distillate # 2 fuel oil allowable by 326 IAC 7:

$$\begin{aligned} & 0.5 \text{ lb/MMBtu} \times 140,000 \text{ Btu/gal} = 70 \text{ lb/1000gal} \\ & 70 \text{ lb/1000gal} / 157 \text{ lb/1000 gal} = 0.4 \% \\ & \text{Sulfur content must be less than or equal to } 0.4\% \text{ to comply with 326 IAC 7.} \end{aligned}$$

326 IAC 6-3-2 Compliance Calculations:

The following calculations determine compliance with 326 IAC 6-3-2 for process weight rates in excess of 30 tons per hour:

$$\text{limit} = 55 * (400 ^{0.11}) - 40 = 66.31 \text{ lb/hr or } 290.45 \text{ ton/yr}$$

Since the emission limits pursuant to Subpart I of 15.72 lbs/hr is more stringent than this limit, the limit pursuant to 326 IAC 6-3-2 does not apply.

PM Emission Limit for Aggregate Dryer to render 326 IAC 2-2 (PSD) not applicable:

$$\begin{aligned} & 249.9 \text{ tons PM/yr} - 158.90 \text{ tons PM/yr from other sources} \\ & = 91.00 \text{ tons PM/yr} = 20.78 \text{ lbs/hr} \end{aligned}$$

PM emissions from the aggregate dryer are controlled to less than 20.78 lbs/hr (Will be able to comply)

Based on a maximum asphalt mix throughput of 400 tons/hr, this emission limit is equivalent to 0.0519 lb PM per ton of asphalt mix

PM-10 Emission Limit for Aggregate Dryer pursuant to 326 IAC 2-8 (FESOP):

$$\begin{aligned} & 99.9 \text{ tons PM-10/yr} - 45.14 \text{ tons PM-10/yr from other sources} \\ & = 54.76 \text{ tons PM-10/yr} = 12.50 \text{ lbs/hr} \end{aligned}$$

PM-10 emissions from the aggregate dryer are controlled to less than 12.50 lbs/hr (Will be able to comply)

Based on a maximum asphalt mix throughput of 400 tons/hr, this emission limit is equivalent to 0.0313 lb PM-10 per ton of asphalt mix

40 CFR Part 60.90, Subpart I (Standards of Performance for Hot Mix Asphalt Plants) Compliance Calculations:

The following calculations determine compliance with the NSPS, Subpart I which limits stack emissions from asphalt plants to 0.04 gr/dscf:

$$\frac{56.06 \text{ ton/yr} * 2000 \text{ lb/ton} * 7000 \text{ gr/lb}}{525,600 \text{ min/yr} * 45,853 \text{ dscf/min}} = 0.033 \text{ gr/dscf}$$

Allowable particulate emissions under NSPS equate to 68.86 tons per year. 15.72 lbs/hr

Note:

$$\text{SCFM} = \frac{65,132 \text{ acfm} * (460 + 68)}{45,853 \text{ scfm}}$$

Assumes exhaust gas temperature of 290F and exhaust gas flow of 65,132 acfm.