



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: August 25, 2011

RE: Rieth-Riley Construction Co. / 091 - 29725 - 03179

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

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot12/03/07



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Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

**Rieth-Riley Construction Co., Inc.
Stationary Plant #366
2454 West CR 450 North
LaPorte, Indiana 46350**

(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.

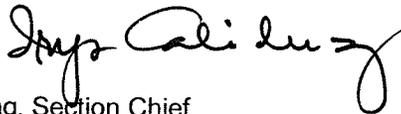
Operation Permit No.: F091-29725-03179	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 25, 2011 Expiration Date: August 25, 2021

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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 hot-mix asphalt plant, and a cold-mix asphalt manufacturing operation. Blast furnace and/or electric arc furnace steel mill slag and asbestos-free recycled shingles are processed in the aggregate mix. Additionally, recycled asphalt pavement (RAP) is crushed and asbestos-free recycled shingles are ground.

Source Address:	2454 West CR 450 North, LaPorte, Indiana 46350
General Source Phone Number:	(574) 875-5183
SIC Code:	2951
County Location:	LaPorte
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

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

- (a) One (1) counterflow drum hot-mix asphalt plant, identified as 2, constructed in 2001, capable of processing four hundred (400) tons of raw material per hour, processing blast furnace and/or steel slag and asbestos-free shingles in the aggregate mix, equipped with one (1) one hundred twenty-five (125) million British thermal units (MMBtu) per hour dryer burner outfitted with low NOX burners, identified as 3, firing waste oil, natural gas, No. 2 fuel oil, No. 4 fuel oil, propane gas or butane gas, controlling particulate emissions with one (1) baghouse, and exhausting to one (1) stack, identified as SV1.

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

- (b) Material handling, screening, conveying operations, uncontrolled, exhausting to the atmosphere, and including:
- (1) Aggregate storage piles consisting of sand, limestone, gravel, blast furnace and/or electric arc furnace steel mill slag, and asbestos-free recycled shingles (ground factory seconds and/or post consumer waste), as follows:
- (A) Sand storage piles, with a maximum anticipated pile size of three and thirty-four hundredths (3.34) acres;
- (B) Limestone storage piles, with a maximum anticipated pile size of nine and eighteen hundredths (9.18) acres;
- (C) Gravel storage piles, with a maximum anticipated pile size of four and nine hundredths (4.09) acres; and

- (D) Blast furnace and/or electric arc furnace steel mill slag storage piles, with a combined maximum anticipated pile size of six and ninety-four hundredths (6.94) acres; and
 - (E) Asbestos-free shingle (ground factory seconds and/or post consumer waste) storage piles, with a combined maximum anticipated pile size of five and fifty-two hundredths (5.52) acres.
- (2) One (1) cold feed system, identified as 1, constructed in 2001, with a maximum capacity of three hundred seventy-two (372) tons of aggregate per hour, and consisting of:
 - (A) six (6) feeder bins;
 - (B) two (2) belt conveyors; and
 - (C) one (1) scalping screen.
 - (3) One (1) drag (slat) conveyor;
 - (4) One (1) mineral filler dust silo, identified as 15, constructed in 2001, with a maximum capacity of five hundred (500) barrels.
 - (5) Three (3) hot mix storage bins, identified as 5, constructed in 2001, with a maximum capacity of three hundred (300) tons, each.

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

- (c) One (1) recycled asphalt pavement (RAP) system, identified as 10, constructed in 2001, with a maximum throughput capacity of two hundred (200) tons of RAP per hour (the crusher capacity is fifty (50) tons per hour), uncontrolled, exhausting to the atmosphere, and including the following:
 - (1) One (1) recycled asphalt pavement (RAP) crusher;
 - (2) one (1) feeder bin;
 - (3) three (3) belt conveyors;
 - (4) one(1) scalping screen, and
 - (5) RAP storage piles, with a maximum anticipated pile size of three and sixty-nine hundredths (3.69) acres;

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, this is considered an affected facility.

- (d) Intermittent recycled asphalt pavement (RAP) crushing and asbestos-free shingle (factory seconds and/or post consumer waste) grinding operations, approved for construction in 2011, with a maximum throughput capacity of one hundred (100) tons of material per hour, uncontrolled, exhausting to the atmosphere, including the following:
 - (1) One (1) 540 Hp diesel fuel-fired crusher/grinder; and

- (2) RAP and/or asbestos-free shingle storage piles, with a maximum anticipated pile size of one and six tenths (1.6) acre.

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, the intermittent recycled asphalt pavement (RAP) crushing operation is considered an affected facility.

- (e) One (1) cold-mix cutback asphalt production operation, constructed in 2001, uncontrolled, exhausting to the atmosphere, and including:
 - (1) cold-mix (stockpile mix) asphalt storage piles;

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) liquid asphalt cement hot oil heating system, constructed in 2001, including two (2) hot oil heaters, identified as 14A and 14B, with a maximum heat input capacity of two (2.0) million British thermal units per hour, each, firing natural gas or No. 2 fuel oil, uncontrolled and exhausting to Stacks SV2 and SV3, respectively; [326 IAC 6-2] [40 CFR 63, Subpart JJJJJJ]

- (b) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.

Under 40 CFR 63, Subpart CCCCCC: National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, the gasoline fuel transfer and dispensing operation is considered an affected facility.

- (c) 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.
- (d) Two (2) tanks, identified as 11A and 11B, storing waste oil, constructed in 2001, with a maximum capacity of 15,000 gallons each, and exhausting through Stacks SV6 and SV7;
- (e) One (1) tank, identified as 12, storing No. 2 fuel oil, constructed in 2001, with a maximum capacity 10,000 gallons, and exhausting through stack SV8;
- (f) Three (3) tanks, identified as 13A, 13B, and 13C, storing liquid asphalt. Tanks 13A and 13B were constructed in 2001, with a maximum capacity of 30,000 gallons each, and tank 13C was constructed in 2002 with a maximum capacity of 15,000 gallons, equipped with condenser vents and exhausting through Stacks SV4 and SV5;
- (g) The following VOC and HAP storage containers: vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (h) Refractory storage not requiring air pollution control equipment.
- (i) Cleaners and solvents characterized as follows:
 - (1) having a vapor pressure equal to or less than two (2) kiloPascals; fifteen (15) millimeters of mercury; or three tenths (0.3) pounds per square inch measured at sixty-eight degrees Celsius (38 °C) (one hundred degrees Fahrenheit (100 °F)) or;

- (2) having a vapor pressure equal to or less than seven tenths (0.7) kiloPascals; five (5) millimeters of mercury; or one tenth (0.1) pounds per square inch measured at twenty degrees Celsius (20 °C) (sixty-eight degrees Fahrenheit (68 °F)); the use of which for all cleaners and solvents combined does not exceed one hundred forty five (145) gallons per twelve (12) months.
- (j) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (k) Unpaved roads and parking lots with public access [326 IAC 6-5].

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, F091-29725-03179, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

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

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

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

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

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

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

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

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

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

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

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

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

- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:

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

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

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

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

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

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

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

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

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

- (a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

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

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

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

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

The Permittee shall implement the PMPs.

- (c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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

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

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

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

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

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

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

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

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

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

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

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

- (a) All terms and conditions of permits established prior to F091-29725-03179 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

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

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

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

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

B.16 Permit Renewal [326 IAC 2-8-3(h)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

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

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

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

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

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

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

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

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

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

and

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM) and greenhouse gases (GHGs), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period.

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

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

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

C.3 Opacity [326 IAC 5-1]

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

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

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

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

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

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

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

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

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

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

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

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

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

All required notifications shall be submitted to:

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

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

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

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

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

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

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

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

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

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

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

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

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

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

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

- (a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

- (b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

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

C.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

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

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

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

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

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

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

C.17 Emission Statement [326 IAC 2-6]

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

The statement must be submitted to:

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

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

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

- (a) Records of all required monitoring data, reports, and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.
- (c) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A), 40 CFR 51.165(a)(6)(vi)(B), 40 CFR 51.166(r)(6)(vi)(a), and/or 40 CFR 51.166(r)(6)(vi)(b)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:
- (1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) at an existing emissions unit, document and maintain the following records:
- (A) A description of the project.

- (B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.
- (C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:
 - (i) Baseline actual emissions;
 - (ii) Projected actual emissions;
 - (iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1 (mm)(2)(A)(iii); and
 - (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.
- (d) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A) and/or 40 CFR 51.166(r)(6)(vi)(a)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:
 - (1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and
 - (2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

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

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

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

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.
- (e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:
 - (1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (xx) and/or 326 IAC 2-3-1 (qq), for that regulated NSR pollutant, and
 - (2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).
- (f) The report for project at an existing emissions unit shall be submitted no later than sixty (60) days after the end of the year and contain the following:
 - (1) The name, address, and telephone number of the major stationary source.
 - (2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.
 - (3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).
 - (4) Any other information that the Permittee wishes to include in this report such as an explanation as to why the emissions differ from the preconstruction projection.

Reports required in this part shall be submitted to:

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

- (g) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description [326 IAC 2-8-4(10)]: Hot-Mix Asphalt Facility

- (a) One (1) counterflow drum hot-mix asphalt plant, identified as 2, constructed in 2001, capable of processing four hundred (400) tons of raw material per hour, processing blast furnace and/or steel slag and asbestos-free recycled shingles in the aggregate mix, equipped with one (1) one hundred twenty-eight (128) million British thermal units (MMBtu) per hour dryer burner outfitted with low NOX burners, identified as 3, firing waste oil, natural gas, No. 2 fuel oil, No. 4 fuel oil, propane gas or butane gas, controlling particulate emissions with one (1) baghouse, and exhausting to one (1) stack, identified as SV1.

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

- (b) Material handling, screening, conveying operations, uncontrolled, exhausting to the atmosphere, and including:
- (1) Aggregate storage piles consisting of sand, limestone, gravel, blast furnace and/or electric arc furnace steel mill slag, and asbestos-free recycled shingles (ground factory seconds and/or post consumer waste), as follows:
 - (A) Sand storage piles, with a maximum anticipated pile size of three and thirty-four hundredths (3.34) acres;
 - (B) Limestone storage piles, with a maximum anticipated pile size of nine and eighteen hundredths (9.18) acres;
 - (C) Gravel storage piles, with a maximum anticipated pile size of four and nine hundredths (4.09) acres; and
 - (D) Blast furnace and/or electric arc furnace steel mill slag storage piles, with a combined maximum anticipated pile size of six and ninety-four hundredths (6.94) acres; and
 - (E) Asbestos-free recycled shingle (ground factory seconds and/or post consumer waste) storage piles, with a combined maximum anticipated pile size of five and fifty-two hundredths (5.52) acres.
 - (2) One (1) cold feed system, identified as 1, constructed in 2001, with a maximum capacity of three hundred seventy-two (372) tons of aggregate per hour, and consisting of:
 - (A) six (6) feeder bins;
 - (B) two (2) belt conveyors; and
 - (C) one (1) scalping screen.
 - (3) One (1) drag (slat) conveyor;
 - (4) One (1) mineral filler dust silo, identified as 15, constructed in 2001, with a maximum capacity of five hundred (500) barrels.
 - (5) Three (3) hot mix storage bins, identified as 5, constructed in 2001, with a maximum capacity of three hundred (300) tons, each.

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

- (c) One (1) recycled asphalt pavement (RAP) system, identified as 10, constructed in 2001, with a maximum throughput capacity of two hundred (200) tons of RAP per hour (the crusher capacity is fifty (50) tons per hour), uncontrolled, exhausting to the atmosphere, and including the following:
- (1) One (1) recycled asphalt pavement (RAP) crusher;
 - (2) one (1) feeder bin;
 - (3) three (3) belt conveyors;
 - (4) one(1) scalping screen, and
 - (5) RAP storage piles, with a maximum anticipated pile size of three and sixty-nine hundredths (3.69) acres;

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, this is considered an affected facility.

- (d) Intermittent recycled asphalt pavement (RAP) crushing and asbestos-free recycled shingle (factory seconds and/or post consumer waste) grinding operations, approved for construction in 2011, with a maximum throughput capacity of one hundred (100) tons of material per hour, uncontrolled, exhausting to the atmosphere, including the following:
- (1) One (1) 540 Hp diesel fuel-fired crusher/grinder; and
 - (2) RAP and/or asbestos-free recycled shingle storage piles, with a maximum anticipated pile size of one and six tenths (1.6) acre.

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, the intermittent recycled asphalt pavement (RAP) crushing operation is considered an affected facility.

- (e) One (1) cold-mix cutback asphalt production operation, constructed in 2001, uncontrolled, exhausting to the atmosphere, and including:
- (1) cold-mix (stockpile mix) asphalt storage piles;

Insignificant Activities

- (a) One (1) liquid asphalt cement hot oil heating system, constructed in 2001, including two (2) hot oil heaters, identified as 14A and 14B, with a maximum heat input capacity of two (2.0) million British thermal units per hour, each, firing natural gas or No. 2 fuel oil, uncontrolled and exhausting to Stacks SV2 and SV3, respectively; [326 IAC 6-2] [40 CFR 63, Subpart JJJJJJ]

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

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

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

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

- (a) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) PM emissions from the dryer/mixer shall not exceed two hundred eighty-nine thousandths (0.289) pounds of PM per ton of asphalt produced.

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

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

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

- (a) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) PM10 emissions from the dryer/mixer shall not exceed one hundred twenty-eight thousandths (0.128) pounds of PM10 per ton of asphalt produced.
- (c) PM2.5 emissions from the dryer/mixer shall not exceed one hundred sixty-one thousandths (0.161) pounds of PM2.5 per ton of asphalt produced.
- (d) VOC emissions from the dryer/mixer shall not exceed thirty-two thousandths (0.032) pounds of VOC per ton of asphalt produced.
- (e) CO emissions from the dryer/mixer shall not exceed one hundred thirty thousandths (0.130) pounds of CO per ton of asphalt produced.

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

In addition, compliance with these limits shall limit the VOC emissions from the dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

D.1.3 SO2, NOx, VOC, CO2e, and HAP Limitations [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-4.1]

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

(a) Sulfur Content and Waste Oil Specifications

- (1) The thirty (30) day calendar month average sulfur content of the blast furnace slag shall not exceed one and five tenths (1.5) percent by weight, with compliance determined at the end of each month.
- (2) SO2 emissions from blast furnace slag used in the dryer/mixer shall not exceed five thousand four hundred thirteen ten-thousandths (0.5413) pounds of SO2 per ton of blast furnace slag processed, when the thirty (30) day calendar month average sulfur content is less than or equal to one and eleven hundredths (1.11) percent by weight.

- (3) SO₂ emissions from the blast furnace slag used in the dryer/mixer shall not exceed seventy-four hundredths (0.74) pounds of SO₂ per ton of blast furnace slag processed, when the thirty (30) day calendar month average sulfur content is greater than one and eleven hundredths (1.11) percent by weight.
 - (4) The sulfur content of the electric arc furnace steel mill slag shall not exceed sixty-six hundredths (0.66) percent by weight.
 - (5) SO₂ emissions from the electric arc furnace steel mill slag used in the dryer/mixer shall not exceed fourteen ten-thousandths (0.0014) pounds of SO₂ per ton of electric arc furnace steel mill slag processed.
 - (6) The sulfur content of the No. 2 fuel oil shall not exceed five-tenths (0.5) percent by weight.
 - (7) The sulfur content of the No. 4 fuel oil shall not exceed five-tenths (0.5) percent by weight.
 - (8) The sulfur content of the diesel fuel oil shall not exceed five tenths (0.5) percent by weight.
 - (9) The sulfur content of the waste oil shall not exceed one (1.0) percent by weight.
 - (10) The chlorine content of the waste oil shall not exceed four tenths (0.4) percent by weight.
 - (11) HCl emissions from the dryer/mixer shall not exceed two hundred sixty-four ten-thousandths (0.0264) pounds of HCl per gallon of waste oil burned.
- (b) SO₂ emissions from the dryer/mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and the blast furnace and electric arc furnace steel mill slag processing shall not exceed ninety-nine (99.0) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (c) NO_x emissions from the dryer/mixer burner hot oil heaters, and diesel fuel-fired portable crusher, shall not exceed ninety-nine (99.0) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (d) CO₂ equivalent emissions (CO₂e) from the dryer/mixer burner, hot oil heaters, and diesel fuel-fired portable crusher, shall not exceed ninety-nine thousand (99,000) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (e) VOC emissions from the sum of the binders shall not exceed forty-eight and ninety hundredths (48.90) tons per twelve (12) consecutive month period with compliance determined at the end of each month.
 - (f) Liquid binder used in the production of cold mix asphalt shall be defined as follows:
 - (1) Cut back asphalt rapid cure, containing a maximum of twenty-five and three tenths percent (25.3%) by weight of VOC solvent in the liquid binder and ninety-five percent (95.0%) by weight of VOC solvent evaporating.
 - (2) Cut back asphalt medium cure, containing a maximum of twenty-eight and six tenths percent (28.6%) by weight of VOC solvent in the liquid binder and seventy percent (70.0%) by weight of VOC solvent evaporating.

- (3) Cut back asphalt slow cure, containing a maximum of twenty percent (20.0%) by weight of VOC solvent in the liquid binder and twenty-five percent (25.0%) by weight of VOC solvent evaporating.
 - (4) Emulsified asphalt with solvent, containing a maximum of fifteen percent (15.0%) by weight of VOC solvent in the liquid binder and forty-six and four tenths percent (46.4%) by weight of VOC solvent evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be seven percent (7%) or less of the total emulsion by volume.
 - (5) Other asphalt with solvent binder, containing a maximum of twenty-five and nine tenths (25.9%) by weight of VOC solvent in the liquid binder and two and five tenths (2.5%) by weight of VOC solvent evaporating. This definition applies to any other asphalt with solvent binder that does not have distillation data available as determined by ASTM Method D-402, Distillation of Cutback Asphalt Products.
 - (6) Rieth-Riley other asphalt with solvent binder, cutback asphalt that has distillation data available as determined by ASTM Method D-402, Distillation of Cutback Asphalt Products.
- (g) HCl emissions from the dryer/mixer burner shall not exceed nine and nine tenths (9.9) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (h) The Permittee shall only grind and process certified asbestos-free factory second and/or post consumer waste shingles as an additive in its aggregate mix.

Compliance with these limits, combined with the potential to emit SO₂, NO_x, VOC, greenhouse gases, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO₂, NO_x, and VOC to less than one hundred (100) tons per twelve (12) consecutive month period, each, greenhouse gases to less than 100,000 tons CO₂ equivalent emissions (CO₂e) per 12 consecutive month period, any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

D.1.4 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2]

Pursuant to 326 IAC 6-2-3, the particulate emissions from the two (2) hot oil heaters, identified as 14A and 14B, shall not exceed six tenths (0.6) pounds of particulate matter per MMBtu heat input, each.

D.1.5 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from the recycled asphalt pavement (RAP) crushing and asbestos-free recycled shingle (factory seconds and/or post consumer waste) grinding operations shall not exceed the pound per hour limits listed in the table below:

Emission Unit	Process Weight Rate		Allowable Emission Rate (lb/hour)
	(lbs/hr)	(tons/hr)	
RAP Crushing	100,000	50	44.58
RAP Crushing system #10 - material handling, screening, and conveying	400,000	200	58.51
intermittent RAP Crushing & Shingle Grinding	200,000	100	51.28
intermittent RAP Crushing & Shingle Grinding - material handling, screening, and conveying	200,000	100	51.28

The pounds per hour limitations were calculated using the following equation:
 Interpolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

- (b) Pursuant to 326 IAC 6-3-2(e)(3), when the process weight exceeds 200 tons per hour, the maximum allowable emission may exceed the emission limits shown in the table above, provided the concentration of particulate matter in the gas discharged to the atmosphere is less than ten hundredths (0.10) pounds per one thousand (1,000) pounds of gases.

D.1.6 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1][326 IAC 7-2-1]

- (1) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), the Permittee shall comply with the following:
 - (a) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner and hot oil heaters, each, shall not exceed five-tenths (0.5) pounds per MMBtu when using distillate oil.
 - (b) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed one and six tenths (1.6) pounds per MMBtu heat input when using residual oil.
- (2) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

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

Pursuant to 326 IAC 8-5-2, Volatile Organic Compound Rules for Asphalt Pavers, the cutback asphalt or asphalt emulsions produced by the source shall not contain more than seven percent (7%) oil distillate by volume of emulsion as determined by ASTM D244-80a "Emulsific Asphalts" ASTM part 15, 1981 ASTM 1916 Race St., Philadelphia, PA 19103, Library of Congress Card Catalog #40-10712, for any paving application except as used for the following purposes:

- (a) penetrating prime coating;
- (b) stockpile storage;
- (c) application during the months of November, December, January, February, and March.

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

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

Compliance Determination Requirements

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

- (a) In order to demonstrate compliance with Condition D.1.1(b), the Permittee shall perform PM testing of the dryer/mixer not later than five (5) years from the most recent valid compliance demonstration. This testing shall be conducted utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.
- (b) In order to demonstrate compliance with Conditions D.1.2(b) and D.1.2(c), the Permittee shall perform PM10 and PM2.5 testing of the dryer/mixer not later than five (5) years from the most recent valid compliance demonstration. This testing shall be conducted utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable PM.

D.1.10 Particulate Control

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

D.1.11 Sulfur Dioxide Emissions and Sulfur Content

- (a) Pursuant to 326 IAC 2-8-4, compliance with Condition D.1.3(a)(1) shall be determined utilizing one of the following options:
 - (1) Providing vendor analysis of blast furnace slag delivered, if accompanied by a vendor certification; or
 - (2) Analyzing a sample of the blast furnace slag delivery to determine the sulfur content of the blast furnace slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified above shall not be refuted by evidence of compliance pursuant to the other method.
- (b) Pursuant to 326 IAC 2-8-4, compliance with Condition D.1.3(a)(4) shall be determined utilizing one of the following options:
 - (1) Providing vendor analysis of electric arc furnace steel mill slag delivered, if accompanied by a vendor certification; or

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

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

- (c) Pursuant to 326 IAC 3-7-4, compliance with Conditions D.1.3(a)(6), D.1.3(a)(7), D.1.3(a)(8), D.1.3(a)(9), D.1.6(a) and D.1.6(b) shall be demonstrated utilizing one of the following options:
 - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (i) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (ii) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the dryer/mixer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

D.1.12 Asphalt, Fuel, and Slag Limitations

In order to comply with Condition D.1.3, the Permittee shall limit asphalt production, fuel usage in the dryer/mixer burner, hot oil heaters, and diesel-fired portable crusher, and slag usage in the dryer/mixer burner according to the following formulas:

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

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

Where:

L = blast furnace slag usage in previous 12 consecutive months with an average sulfur content less than or equal to 1.11 percent by weight;

m = total number of months where the 30 day calendar month average sulfur content is less than or equal to 1.11 percent by weight;

i = each specific month where the 30 day calendar month average sulfur content is less than or equal to 1.11 percent by weight; and

J = actual tons of blast furnace slag used per month where the 30 day calendar month average sulfur content is less than or equal to 1.11 percent by weight.

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

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

Where:

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

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

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

Where:

U = waste oil usage in previous 12 consecutive months;
d = total number of waste oil deliveries;
e = each specific waste oil delivery;
W_A = actual gallons of waste oil used from each specific waste oil delivery; and
S_A = actual percent by weight sulfur content of waste oil for each specific waste oil delivery.

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

$$S = \frac{[G(0.6) + H(0.6) + O(0.071) + E(0.071) + F(0.075) + P(0.00002) + B(0.00002) + D(0.040) + A(0.0014) + L(0.5413) + X(0.74)] + U(0.147)}{2000}$$

Where:

S = tons of sulfur dioxide emissions for previous 12 consecutive month period;
G = million cubic feet of natural gas used in dryer/mixer in previous 12 months;
H = million cubic feet of natural gas used in hot oil heater in previous 12 months;
O = gallons of No. 2 fuel oil used in dryer/mixer in previous 12 months;
E = gallons of No. 2 fuel oil used in hot oil heater in previous 12 months;
F = gallons of No. 4 fuel oil used in dryer/mixer in previous 12 months;
P = gallons of propane used in dryer/mixer and hot oil heaters in previous 12 months;
B = gallons of butane used in dryer/mixer and hot oil heaters in previous 12 months;
D = gallons of diesel fuel oil used in crusher in previous 12 months;
A = tons of electric arc furnace steel mill slag used in dryer/mixer in previous 12 months;
L = tons of blast furnace slag as defined by Condition D.1.12(a);
X = tons of blast furnace slag as defined by Condition D.1.12(b); and
U = gallons of waste oil as defined by Condition D.1.12(c).

Emission Factors:

Natural Gas (dryer/mixer) = 0.6 pounds per million cubic feet of natural gas;
Natural Gas (hot oil heater) = 0.6 pounds per million cubic feet of natural gas;
No. 2 Fuel Oil (dryer/mixer) = 0.071 pounds per gallon of No. 2 fuel oil;
No. 2 Fuel Oil (hot oil heater) = 0.071 pounds per gallon of No. 2 fuel oil;
No. 4 Fuel Oil (dryer/mixer) = 0.075 pounds per gallon of No. 4 fuel oil;
Propane (dryer/mixer/heaters) = 0.00002 pounds per gallon of propane;
Butane (dryer/mixer/heaters) = 0.00002 pounds per gallon of butane;
Diesel Fuel Oil (crusher) = 0.040 pounds per gallon of diesel fuel oil;

Electric Arc Furnace Steel Mill Slag = 0.0014 pounds per ton of electric arc furnace steel mill slag processed;
Blast Furnace Slag = 0.5413 pounds per ton of blast furnace slag processed, with a 30 day calendar month average sulfur content less than or equal to 1.11 percent by weight or 0.74 pounds per ton of blast furnace slag processed, with a 30 day calendar month average sulfur content greater than 1.11 percent by weight; and
Waste Oil (dryer/mixer) = 0.147 pounds per gallon of waste oil;

- (e) Nitrogen oxide (NO_x) emissions shall be determined using the following equation:

$$N = \frac{[G(190) + H(100) + O(0.024) + E(0.020) + F(0.047) + P(0.013) + B(0.015) + D(0.604) + U(0.016)]}{2000}$$

Where:

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

Emission Factors

Natural Gas (dryer/mixer) = 190 pounds per million cubic feet of natural gas;
Natural Gas (hot oil heater) = 100 pounds per million cubic feet of natural gas;
No. 2 Fuel Oil (dryer/mixer) = 0.024 pounds per gallon of No. 2 fuel oil;
No. 2 Fuel Oil (hot oil heater) = 0.020 pounds per gallon of No. 2 fuel oil;
No. 4 Fuel Oil (dryer/mixer) = 0.047 pounds per gallon of No. 4 fuel oil;
Propane (dryer/mixer/heaters) = 0.013 pounds per gallon of propane;
Butane (dryer/mixer/heaters) = 0.015 pounds per gallon of butane;
Diesel Fuel Oil (crusher) = 0.604 pounds per gallon of diesel fuel oil; and
Waste Oil (dryer/mixer) = 0.019 pounds per gallon of waste oil.

- (f) CO₂ equivalent emissions (CO₂e) shall be determined using the following equations:

$$CO_2 = \frac{[G(X_G) + O(X_O) + F(X_F) + P(X_P) + B(X_B) + D(X_D) + U(X_U)]}{2,000}$$

$$CH_4 = \frac{[G(X_G) + O(X_O) + F(X_F) + P(X_P) + B(X_B) + D(X_D) + U(X_U)]}{2,000}$$

$$N_2O = \frac{[G(X_G) + O(X_O) + F(X_F) + P(X_P) + B(X_B) + D(X_D) + U(X_U)]}{2,000}$$

$$CO_2e = \sum [(CO_2 \times CO_2 \text{ GWP}) + (CH_4 \times CH_4 \text{ GWP}) + (N_2O \times N_2O \text{ GWP})]$$

Where:

CO₂ = tons of CO₂ emissions for previous 12 consecutive month period;
CH₄ = tons of CH₄ emissions for previous 12 consecutive month period;
N₂O = tons of N₂O emissions for previous 12 consecutive month period;
CO₂e = tons of CO₂e equivalent emissions for previous 12 consecutive month period;
G = million cubic feet of natural gas used in dryer/mixer and hot oil heater in previous 12 months;
O = gallons of No. 2 fuel oil used in dryer/mixer and hot oil heater in previous 12 months;

F = gallons of No. 4 fuel oil used in dryer/mixer in previous 12 months;
P = gallons of propane used in dryer/mixer and hot oil heater in previous 12 months;
B = gallons of butane used in dryer/mixer and hot oil heater in previous 12 months;
D = gallons of diesel fuel oil used in crusher in previous 12 months; and
U = gallons of waste oil used in dryer/mixer in previous 12 months.

Emission Factors - CO2:

X_G (dryer/mixer/heater) = 120,161.84 pounds per million cubic feet of natural gas;
X_O (dryer/mixer/heater) = 22,501.41 x 10⁻³ pounds per gallon of No. 2 fuel oil;
X_F (dryer/mixer) = 24,153.46 x 10⁻³ pounds per gallon of No. 4 fuel oil;
X_P (dryer/mixer/heater) = 12,500.00 x 10⁻³ pounds per gallon of propane;
X_B (dryer/mixer/heater) = 14,506.73 x 10⁻³ pounds per gallon of butane;
X_D (crusher) = 22,472.92 x 10⁻³ pounds per gallon of diesel fuel oil; and
X_U (dryer/mixer) = 22,024.15 x 10⁻³ pounds per gallon of waste oil;

Emission Factors - CH4:

X_G (dryer/mixer/heater) = 2.49 pounds per million cubic feet of natural gas;
X_O (dryer/mixer/heater) = 0.00091 pounds per gallon of No. 2 fuel oil;
X_F (dryer/mixer) = 0.00097 pounds per gallon of No. 4 fuel oil;
X_P (dryer/mixer/heater) = 0.00060 pounds per gallon of propane;
X_B (dryer/mixer/heater) = 0.00067 pounds per gallon of butane;
X_D (crusher) = 0.00091 pounds per gallon of diesel fuel oil; and
X_U (dryer/mixer) = 0.00089 pounds per gallon of waste oil;

Emission Factors - N2O:

X_G (dryer/mixer/heater) = 2.20 pounds per million cubic feet of natural gas;
X_O (dryer/mixer/heater) = 0.00026 pounds per gallon of No. 2 fuel oil;
X_F (dryer/mixer) = 0.00019 pounds per gallon of No. 4 fuel oil;
X_P (dryer/mixer/heater) = 0.0009 pounds per gallon of propane;
X_B (dryer/mixer/heater) = 0.0009 pounds per gallon of butane;
X_D (crusher) = 0.00018 pounds per gallon of diesel fuel oil; and
X_U (dryer/mixer) = 0.00018 pounds per gallon of waste oil;

Greenhouse Warming Potentials (GWP)

Carbon dioxide (CO₂) = 1
Methane (CH₄) = 21
Nitrous oxide (N₂O) = 310

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

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

Where:

V_{cm} = tons of VOC emissions from cold mix asphalt production in previous 12 month consecutive period;
S = tons of VOC solvent used for each binder as defined in D.1.3(e)(1) through (5) in previous 12 months; and
AF = Adjustment factor for each type of liquid binder as defined in D.1.3(e)(1) through (5);
n = total number of binders used in the production of cold mix asphalt as defined in D.1.3(e)(6);
i = each binder used in the production of cold mix asphalt as defined in D.1.3(e)(6);
C = tons of cold mix asphalt produced using each binder as defined in D.1.3(e)(6) in previous 12 months;
B = Percent of binder used in cold mix asphalt for each binder as defined in D.1.3(e)(6);

D = Percent solvent in each binder as defined in D.1.3(e)(6); and
V = Percent of VOC from the solvent that evaporates when heated to 500°F for each binder as defined in D.1.3(e)(6). This shall be determined by using distillation data provided by the vendor or based on a distillation test performed by the source.

Adjustment Factors:

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

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

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

Where:

U = waste oil usage in previous 12 consecutive months;
n = total number of waste oil deliveries;
k = each specific waste oil delivery;
W_A = actual gallons of waste oil used from each specific waste oil delivery; and
Cl_A = actual percent by weight chlorine content of waste oil for each specific waste oil delivery.

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

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

Where:

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

Emission Factor:

Waste Oil = 0.066 pounds per gallon of waste oil.

D.1.13 Hydrogen Chloride (HCl) Emissions and Chlorine Content

In order to comply with Condition D.1.3(a)(10), the Permittee shall demonstrate that the chlorine content of the waste oil combusted in the dryer/mixer does not exceed four tenths (0.4) percent by weight, by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.

D.1.14 Cold Mix Asphalt Content

In order to comply with Condition D.1.3(e)(6), the Permittee shall demonstrate the percent of VOC from the solvent that evaporates in the binder when heated to 500°F for each binder used in the production of cold mix asphalt as defined in D.1.3(e)(6) as follows:

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

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

D.1.15 Shingle Asbestos Content

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

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

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

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

D.1.16 Visible Emissions Notations

- (a) Visible emission notations of the dryer/mixer stack (SV1) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps 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.1.17 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with the dryer/mixer, at least once per day when the dryer/mixer is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of two (2.0) and eight (8.0) inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.1.18 Broken or Failed Bag Detection

In the event that bag failure has been observed:

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

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

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

D.1.19 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.1.1(a) and D.1.2(a), the Permittee shall keep monthly records of the amount of asphalt processed through the dryer/mixer.
- (b) To document the compliance status with Conditions D.1.3(a), D.1.3(b), D.1.3(c), D.1.3(f), D.1.3(g), D.1.3(h), and D.1.6, the Permittee shall maintain records in accordance with (1) through (8) below. Records maintained for (1) through (8) below shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3(a), D.1.3(b), D.1.3(c), D.1.3(f), D.1.3(g), D.1.3(h), and D.1.6.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Actual blast furnace and electric arc furnace steel mill slag usage, sulfur content and equivalent sulfur dioxide emission rates for all blast furnace and electric arc furnace steel mill slag used at the source since the last compliance determination period;
 - (3) A certification, signed by the owner or operator, that the records of the blast furnace and electric arc furnace steel mill slag supplier certifications represent all of the blast furnace and electric arc furnace steel mill slag used during the period; and
 - (4) If the slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Blast furnace and electric arc furnace steel mill slag supplier certifications;
 - (ii) The name of the blast furnace and electric arc furnace steel mill slag supplier; and
 - (iii) A statement from the blast furnace and electric arc furnace steel mill slag supplier that certifies the sulfur content of the blast furnace and electric arc furnace steel mill slag.
 - (5) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide, nitrogen oxide, and CO₂ equivalent (CO₂e) emission rates for each fuel used at the source since the last compliance determination period;

- (6) Actual waste oil usage, chlorine content, and equivalent hydrogen chloride emission rate for waste oil used at the source since the last compliance determination period;
 - (7) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and
 - (8) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Fuel supplier certifications;
 - (ii) The name of the fuel supplier; and
 - (iii) A statement from the fuel supplier that certifies the sulfur content of the No. 2 and No. 4 fuel oils, and waste oil, and the chlorine content of waste oil.
 - (9) A certification, signed by the owner or operator, that the records of the shingle supplier certifications represent all of the shingles used during the period; and
 - (10) If the shingle supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (A) Shingle supplier certifications;
 - (B) The name of the shingle supplier(s); and
 - (C) A statement from the shingle supplier(s) that certifies the asbestos content of the shingles from their company.
- (c) To document the compliance status with Condition D.1.3(e) and D.1.3(f)(1) through (5), the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Conditions D.1.3(e) and D.1.3(f)(1) through (5).
- (1) Calendar dates covered in the compliance determination period;
 - (2) Cutback asphalt binder usage in the production of cold mix asphalt since the last compliance determination period;
 - (3) VOC solvent content by weight of the cutback asphalt binder used in the production of cold mix asphalt since the last compliance determination period; and
 - (4) Amount of VOC solvent used in the production of cold mix asphalt, and the amount of VOC emitted since the last compliance determination period.

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

- (d) To document the compliance status with Conditions D.1.3(e) and D.1.3(f)(6), the Permittee shall maintain records in accordance with (1) through (6) below. Records

maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Conditions D.1.3(e) and D.1.3(f)(6).

- (1) Calendar dates covered in the compliance determination period;
- (2) Mix temperature of cold mix asphalt produced since the last compliance determination period;
- (3) Amount of cold mix asphalt produced since the last compliance determination period;
- (4) Percent of cutback asphalt binder used in the production of cold mix asphalt since the last compliance determination period;
- (5) Percent of solvent in the cutback asphalt binder used in the production of cold mix asphalt since the last compliance determination period; and
- (6) Evaporation rate of the solvent in the cutback asphalt binder used in production of cold mix asphalt since the last compliance determination period and the amount of VOC emitted since the last compliance determination period.

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

- (e) To document the compliance status with Condition D.1.16, the Permittee shall maintain records of visible emission notations of the dryer/burner stack exhaust SV1 once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (f) To document the compliance status with Condition D.1.17, the Permittee shall maintain records once per day of the pressure drop during normal operation. The Permittee shall include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).
- (g) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.20 Reporting Requirements

- (a) A quarterly summary of the information to document compliance status with Conditions D.1.1(a), D.1.2(a), and D.1.3 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION E.1

NSPS REQUIREMENTS

Emissions Unit Description: Hot-Mix Asphalt Facility

- (a) One (1) counterflow drum hot-mix asphalt plant, identified as 2, constructed in 2001, capable of processing four hundred (400) tons of raw material per hour, processing blast furnace and/or steel slag and asbestos-free recycled shingles in the aggregate mix, equipped with one (1) one hundred twenty-eight (128) million British thermal units (MMBtu) per hour dryer burner outfitted with low NOX burners, identified as 3, firing waste oil, natural gas, No. 2 fuel oil, No. 4 fuel oil, propane gas or butane gas, controlling particulate emissions with one (1) baghouse, and exhausting to one (1) stack, identified as SV1.

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

- (b) Material handling, screening, conveying operations, uncontrolled, exhausting to the atmosphere, and including:
- (1) Aggregate storage piles consisting of sand, limestone, gravel, blast furnace and/or electric arc furnace steel mill slag, and asbestos-free recycled shingles (ground factory seconds and/or post consumer waste), as follows:
 - (A) Sand storage piles, with a maximum anticipated pile size of three and thirty-four hundredths (3.34) acres;
 - (B) Limestone storage piles, with a maximum anticipated pile size of nine and eighteen hundredths (9.18) acres;
 - (C) Gravel storage piles, with a maximum anticipated pile size of four and nine hundredths (4.09) acres; and
 - (D) Blast furnace and/or electric arc furnace steel mill slag storage piles, with a combined maximum anticipated pile size of six and ninety-four hundredths (6.94) acres; and
 - (E) Asbestos-free recycled shingle (ground factory seconds and/or post consumer waste) storage piles, with a combined maximum anticipated pile size of five and fifty-two hundredths (5.52) acres.
 - (2) One (1) cold feed system, identified as 1, constructed in 2001, with a maximum capacity of three hundred seventy-two (372) tons of aggregate per hour, and consisting of:
 - (A) six (6) feeder bins;
 - (B) two (2) belt conveyors; and
 - (C) one (1) scalping screen.
 - (3) One (1) drag (slat) conveyor;
 - (4) One (1) mineral filler dust silo, identified as 15, constructed in 2001, with a maximum capacity of five hundred (500) barrels.
 - (5) Three (3) hot mix storage bins, identified as 5, constructed in 2001, with a maximum capacity of three hundred (300) tons, each.

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

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

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

E.1.1 General Provisions Relating to the New Source Performance Standards (NSPS) for Hot Mix Asphalt Facilities (40 CFR 60, Subpart I), [326 IAC 12] [40 CFR Part 60, Subpart A]

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

E.1.2 NSPS Subpart I Requirements - Standards of Performance for Hot Mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12-1]

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

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

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

E.1.3 Testing Requirements [40 CFR Part 60, Subpart I] [326 IAC 12-1] [326 IAC 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition E.1.2, the Permittee shall perform stack testing as required under NSPS 40 CFR 60, Subpart I, not later than five (5) years from the most recent valid compliance demonstration, utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

SECTION E.2

NSPS REQUIREMENTS

Emissions Unit Description: RAP Crushing Operations

(c) One (1) recycled asphalt pavement (RAP) system, identified as 10, constructed in 2001, with a maximum throughput capacity of two hundred (200) tons of RAP per hour (the crusher capacity is fifty (50) tons per hour), uncontrolled, exhausting to the atmosphere, and including the following:

- (1) One (1) portable recycled asphalt pavement (RAP) crusher;
- (2) one (1) feeder bin;
- (3) three (3) belt conveyors;
- (4) one(1) scalping screen, and
- (5) RAP storage piles, with a maximum anticipated pile size of three and sixty-nine hundredths (3.69) acres;

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, this is considered an affected facility.

(d) Intermittent recycled asphalt pavement (RAP) crushing and asbestos-free recycled shingle (factory seconds and/or post consumer waste) grinding operations, approved for construction in 2011, with a maximum throughput capacity of one hundred (100) tons of material per hour, uncontrolled, exhausting to the atmosphere, including the following:

- (1) One (1) 540 Hp diesel fuel-fired portable crusher/grinder; and
- (2) RAP and/or asbestos-free recycled shingle storage piles, with a maximum anticipated pile size of one and six tenths (1.6) acre.

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, the intermittent recycled asphalt pavement (RAP) crushing operation is considered an affected facility.

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

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

E.2.1 General Provisions Relating to the New Source Performance Standards (NSPS) for Nonmetallic Mineral Processing Plants (40 CFR 60, Subpart OOO), [326 IAC 12] [40 CFR Part 60, Subpart A]

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

E.2.2 NSPS Subpart OOO Requirements - Standards of Performance for Nonmetallic Mineral Processing Plants [40 CFR Part 60, Subpart OOO] [326 IAC 12-1]

Pursuant to CFR Part 60, Subpart OOO, the affected facility to which the provisions of this subpart apply is each crusher and grinding mill at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and/or concrete and subsequent affected facilities up to, but not including, the first storage silo or bin.

The RAP crushing operations are subject to the following portions of 40 CFR 60, Subpart OOO (included as Attachment C of this permit):

- (1) 40 CFR 60.670;
- (2) 40 CFR 60.671;
- (3) 40 CFR 60.672;
- (4) 40 CFR 60.673;
- (5) 40 CFR 60.674;
- (6) 40 CFR 60.675; and
- (7) 40 CFR 60.676.
- (8) Table 1 and Table 3

E.2.3 Testing Requirements [40 CFR Part 60, Subpart OOO] [326 IAC 12-1] [326 IAC 2-8-5(a)(1), (4)]
[326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition E.2.2, the Permittee shall perform stack testing as required under NSPS 40 CFR 60, Subpart OOO, not later than five (5) years from the most recent valid compliance demonstration, utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

SECTION E.3

NESHAP REQUIREMENTS

Emissions Unit Description: Gasoline Dispensing Facilities

- (b) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.

Under 40 CFR 63, Subpart CCCCCC: National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, the gasoline fuel transfer and dispensing operation is considered an affected facility.

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

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

- E.3.1 General Provisions Relating to the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Area Source Standards for Source Category: Gasoline Dispensing Facilities (40 CFR 63, Subpart CCCCCC), [326 IAC 20-1] [40 CFR Part 63, Subpart A]

Pursuant to §63.11130, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 3 of 40 CFR Part 63, Subpart CCCCCC, and in accordance with the schedule in 40 CFR 63 Subpart CCCCCC.

- E.3.2 National Emission Standards for Hazardous Air Pollutants (NESHAPs): Area Source Standards for Source Category: Gasoline Dispensing Facilities [40 CFR 63, Subpart CCCCCC] [326 IAC 20]

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

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

- (1) 40 CFR 63.11110;
- (2) 40 CFR 63.11111(a), (b);
- (3) 40 CFR 63.11112(a), (d);
- (4) 40 CFR 63.11113(b);
- (5) 40 CFR 63.11116;
- (6) 40 CFR 63.11130;
- (7) 40 CFR 63.11131; and
- (8) 40 CFR 63.11132.

SECTION E.4 NESHAP REQUIREMENTS

Emissions Unit Description: Boilers (Hot Oil Heaters)

- (a) One (1) liquid asphalt cement hot oil heating system, constructed in 2001, including two (2) hot oil heaters, identified as 14A and 14B, with a maximum heat input capacity of two (2.0) million British thermal units per hour, each, firing natural gas or No. 2 fuel oil, uncontrolled and exhausting to Stacks SV2 and SV3, respectively; [326 IAC 6-2] [40 CFR 63, Subpart JJJJJJ]

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

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

- E.4.1 General Provisions Relating to the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources (40 CFR 63, Subpart JJJJJJ) [326 IAC 20-1] [40 CFR Part 63, Subpart A]

Pursuant to §63.11130, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 8 of 40 CFR Part 63, Subpart JJJJJJ, and in accordance with the schedule in 40 CFR 63 Subpart JJJJJJ.

- E.4.2 National Emission Standards for Hazardous Air Pollutants (NESHAPs): Area Source Standards for Industrial, Commercial, and Institutional Boilers Area Sources [40 CFR 63, Subpart JJJJJJ] [326 IAC 20]

Pursuant to 40 CFR § 63.11112(a), the emission sources to which this subpart applies are each new, reconstructed, or existing industrial, commercial, and/or institutional boiler within a subcategory (coal, biomass, oil), as listed in §63.11200 and defined in §63.11237, located at an area source.

The two (2) hot oil heaters, identified as 14A and 14B, are each therefore subject to the following portions of Subpart JJJJJJ (6J) (included as Attachment E of this permit):

- (A) 40 CFR 63.11193;
- (B) 40 CFR 63.11194(a)(1),(b),(e);
- (C) 40 CFR 63.11196(a)(1);
- (D) 40 CFR 63.11200;
- (E) 40 CFR 63.11201(b),(d);
- (F) 40 CFR 63.11205(a);
- (G) 40 CFR 63.11210(c);
- (H) 40 CFR 63.11214(b);
- (I) 40 CFR 63.11223(a),(b)(1) - (7);
- (J) 40 CFR 63.11225(a),(b),(c),(d),(g);
- (K) 40 CFR 63.11235
- (L) 40 CFR 63.11236
- (M) 40 CFR 63.11237
- (N) Table 2
- (O) Table 8

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

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

Source Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
FESOP Permit No.: F091-29725-03179

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)_____
- Report (specify)_____
- Notification (specify)_____
- Affidavit (specify)_____
- Other (specify)_____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT**

Source Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
FESOP Permit No.: F091-29725-03179

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: _____

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

FESOP Quarterly Report

Source Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
FESOP Permit No.: F091-29725-03179
Facility: Dryer/mixer
Parameter: **Hot-mix Asphalt Production**
Limit: 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month

Quarter: _____ Year: _____

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

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

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

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

**FESOP Quarterly Report
 Page 1 of 3**

Source Name: Rieth-Riley Construction Co., Inc. (Plant #366)
 Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
 FESOP Permit No.: F091-29725-03179
 Facility: Dryer/mixer burner, hot oil heaters, diesel fuel oil-fired portable crusher, and blast furnace and electric arc furnace steel mill slag processing

Parameter: **SO₂, NO_x, and CO_{2e} emissions**

Limit: SO₂ emissions from the dryer/mixer burner, hot oil heater, diesel fuel oil-fired portable crusher, and blast furnace and electric arc furnace steel mill slag processing shall not exceed 99.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
NO_x emissions from the dryer/mixer burner, hot oil heaters, and diesel fuel oil-fired portable crusher shall not exceed 99.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month; and
CO_{2e} emissions from the dryer/mixer burner, hot oil heaters, and diesel fuel oil-fired portable crusher shall not exceed 99,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

FESOP Fuel Usage, Slag Usage, and SO₂, NO_x, and CO_{2e} Emissions Quarterly Reporting Form

Quarter: _____ Year: _____

Month	Fuel Types (units)	Column 1	Column 2	Column 1 + Column 2	Total SO ₂ Emissions From All Fuels and Slag Used (tons per 12 month consecutive period)	Total NO _x Emissions From All Fuels Used (tons per 12 month consecutive period)	Total CO _{2e} Emissions From All Fuels Used (tons per 12 month consecutive period)
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total			
Month 1	Natural gas (dryer/mixer) (mmcf)						
	Natural gas (heater) (mmcf)						
	No. 2 fuel oil (dryer/mixer) (gallons)						
	No. 2 fuel oil (heater) (gallons)						
	No. 4 fuel oil (gallons)						
	Propane (dryer/mixer & heaters) (gallons)						
	Butane (dryer/mixer & heaters) (gallons)						
	Diesel fuel oil (gallons)						
	Waste oil (gallons)						
	Electric Arc Furnace Steel Mill Slag (tons)						
	Blast Furnace Slag with a sulfur content of ≤ 1.11 (tons)						
	Blast Furnace Slag with a sulfur content of > 1.11 but ≤ 1.5 (tons)						

FESOP Fuel Usage, Slag Usage, and SO₂, NO_x, and CO₂e Emissions Quarterly Reporting Form

Quarter: _____ Year: _____

Month	Fuel Types (units)	Column 1	Column 2	Column 1 + Column 2	Total SO ₂ Emissions From All Fuels and Slag Used (tons per 12 month consecutive period)	Total NO _x Emissions From All Fuels Used (tons per 12 month consecutive period)	Total CO ₂ e Emissions From All Fuels Used (tons per 12 month consecutive period)
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total			
Month 2	Natural gas (dryer/mixer) (mmcf)						
	Natural gas (heater) (mmcf)						
	No. 2 fuel oil (dryer/mixer) (gallons)						
	No. 2 fuel oil (heater) (gallons)						
	No. 4 fuel oil (gallons)						
	Propane (dryer/mixer & heaters) (gallons)						
	Butane (dryer/mixer & heaters) (gallons)						
	Diesel fuel oil (gallons)						
	Waste oil (gallons)						
	Electric Arc Furnace Steel Mill Slag (tons)						
	Blast Furnace Slag with a sulfur content of ≤ 1.11 (tons)						
	Blast Furnace Slag with a sulfur content of > 1.11 but ≤ 1.5 (tons)						
Month 3	Natural gas (dryer/mixer) (mmcf)						
	Natural gas (heater) (mmcf)						
	No. 2 fuel oil (dryer/mixer) (gallons)						
	No. 2 fuel oil (heater) (gallons)						
	No. 4 fuel oil (gallons)						
	Propane (dryer/mixer & heaters) (gallons)						
	Butane (dryer/mixer & heaters) (gallons)						
	Diesel fuel oil (gallons)						
	Waste oil (gallons)						
	Electric Arc Furnace Steel Mill Slag (tons)						
	Blast Furnace Slag with a sulfur content of ≤ 1.11 (tons)						
	Blast Furnace Slag with a sulfur content of > 1.11 but ≤ 1.5 (tons)						

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.

Deviation has been reported on: _____

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

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

FESOP Quarterly Report

Source Name: Rieth-Riley Construction Co., Inc. (Plant #366)
 Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
 FESOP Permit No.: F091-29725-03179
 Facility: Dryer/mixer burner
 Parameter: **HCl emissions**
 Limit: HCl emissions from the dryer/mixer burner shall not exceed 9.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Hydrogen Chloride (HCl) emissions shall be determined using the following equation:

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

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

Quarter: _____ **Year:** _____

Month	Column 1	Column 2	Column 1 + Column 2	Total HCl Emissions From Waste Oil Used (tons per 12 month consecutive period)
	Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	
Month 1				
Month 2				
Month 3				

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

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

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

FESOP Quarterly Report

Page 1 of 3

Source Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
FESOP Permit No.: F091-29725-03179
Facility: Cold-mix asphalt production
Parameter: **VOC emissions**
Limit: VOC emissions from the sum of the binders shall not exceed 48.90 tons per twelve (12) consecutive month period with compliance determined at the end of each month. VOC emissions shall be determined using the following equation:

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

Where:

V_{cm} = tons of VOC emissions from cold mix asphalt production in previous 12 month consecutive period;
 S = tons of VOC solvent used for each binder as defined in D.1.3(e)(1) through (5) in previous 12 months; and
 AF = Adjustment factor for each type of liquid binder as defined in D.1.3(e)(1) through (5);
 n = total number of binders used in the production of cold mix asphalt as defined in D.1.3(e)(6);
 i = each binder used in the production of cold mix asphalt as defined in D.1.3(e)(6);
 C = tons of cold mix asphalt produced using each binder as defined in D.1.3(e)(6) in previous 12 months;
 B = Percent of binder used in cold mix asphalt for each binder as defined in D.1.3(e)(6);
 D = Percent solvent in each binder as defined in D.1.3(e)(6); and
 V = Percent of VOC from the solvent that evaporates when heated to 500°F for each binder as defined in D.1.3(e)(6). This shall be determined by using distillation data provided by the vendor or based on a distillation test performed by the source.

Adjustment Factors:

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

FESOP Cold Mix Asphalt Usage and VOC Emissions Quarterly Reporting Form

Quarter: _____ Year: _____

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

FESOP Cold Mix Asphalt Usage and VOC Emissions Quarterly Reporting Form

Quarter: _____ Year: _____

Rieth-Riley other asphalt with solvent binder

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

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

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

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

Source Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
FESOP Permit No.: F091-29725-03179

Months: _____ to _____ Year: _____

Page 1 of 2

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

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

**FEDERALLY ENFORCEABLE
STATE OPERATING PERMIT RENEWAL
OFFICE OF AIR QUALITY**

**Rieth-Riley Construction Company, Inc.
(Plant #366)
2454 West CR 450 North
LaPorte, IN 46350**

Attachment A

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

F091-29725-03179

**HOT-MIX ASPHALT PLANT
SITE FUGITIVE PARTICULATE MATTER EMISSIONS
CONTROL PLAN**

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

- C. Spray the aggregates with water.
 - D. Maintain a 10-mph speed limit in the yard.
6. Fugitive particulate matter (dust) emissions from the loading and unloading of aggregates shall be controlled by one or more of the following measures:
- A. Reduce free fall distance to a minimum.
 - B. Reduce the rate of discharge of the aggregate.
 - C. Spray the aggregate with water on an as-needed basis.

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

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STATE OPERATING PERMIT RENEWAL
OFFICE OF AIR QUALITY**

**Rieth-Riley Construction Company, Inc.
(Plant #366)
2454 West CR 450 North
LaPorte, IN 46350**

Attachment B

Title 40: Protection of Environment

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

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

F091-29725-03179

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

§ 60.90 Applicability and designation of affected facility.

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

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

§ 60.91 Definitions.

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

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

[51 FR 12325, Apr. 10, 1986]

§ 60.92 Standard for particulate matter.

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

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

§ 60.93 Test methods and procedures.

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

[54 FR 6667, Feb. 14, 1989]

Reference

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

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

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**Rieth-Riley Construction Company, Inc.
(Plant #366)
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Attachment C

Title 40: Protection of Environment

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

**Subpart 000 - STANDARDS OF PERFORMANCE
FOR NONMETALLIC MINERAL PROCESSING PLANTS**

F091-29725-03179

40 CFR 60, SUBPART 000—STANDARDS OF PERFORMANCE FOR NONMETALLIC MINERAL PROCESSING PLANTS

Source: 74 FR 19309, Apr. 28, 2009, unless otherwise noted.

§ 60.670 Applicability and designation of affected facility.

- (a) (1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.
- (2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; plants without crushers or grinding mills above ground; and wet material processing operations (as defined in §60.671).
- (b) An affected facility that is subject to the provisions of subparts F or I of this part or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.
- (c) Facilities at the following plants are not subject to the provisions of this subpart:
 - (1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 23 megagrams per hour (25 tons per hour) or less;
 - (2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 136 megagrams per hour (150 tons per hour) or less; and
 - (3) Common clay plants and pumice plants with capacities, as defined in §60.671, of 9 megagrams per hour (10 tons per hour) or less.
- (d) (1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in §60.671, having the same function as the existing facility, and there is no increase in the amount of emissions, the new facility is exempt from the provisions of §§60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.
- (2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in §60.676(a).
- (3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§60.672, 60.674 and 60.675.
- (e) An affected facility under paragraph (a) of this section that commences construction, modification, or reconstruction after August 31, 1983, is subject to the requirements of this part.
- (f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that do not apply to owners and operators of affected facilities subject to this subpart or that apply with certain exceptions.

§ 60.671 Definitions.

All terms used in this subpart, but not specifically defined in this section, shall have the meaning given them in the Act and in subpart A of this part.

Bagging operation means the mechanical process by which bags are filled with nonmetallic minerals.

Belt conveyor means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

Bucket elevator means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

Building means any frame structure with a roof.

Capacity means the cumulative rated capacity of all initial crushers that are part of the plant.

Capture system means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more affected facilities to a control device.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities at a nonmetallic mineral processing plant.

Conveying system means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to the following: Feeders, belt conveyors, bucket elevators and pneumatic systems.

Crush or *Crushing* means to reduce the size of nonmetallic mineral material by means of physical impaction of the crusher or grinding mill upon the material.

Crusher means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: Jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

Enclosed truck or railcar loading station means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

Fixed plant means any nonmetallic mineral processing plant at which the processing equipment specified in §60.670(a) is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock.

Fugitive emission means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation.

Grinding mill means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: Hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

Initial crusher means any crusher into which nonmetallic minerals can be fed without prior crushing in the plant.

Nonmetallic mineral means any of the following minerals or any mixture of which the majority is any of the following minerals:

- (1) Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.
- (2) Sand and Gravel.
- (3) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.
- (4) Rock Salt.
- (5) Gypsum (natural or synthetic).
- (6) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.
- (7) Pumice.
- (8) Gilsonite.
- (9) Talc and Pyrophyllite.
- (10) Boron, including Borax, Kernite, and Colemanite.
- (11) Barite.
- (12) Fluorospar.
- (13) Feldspar.
- (14) Diatomite.
- (15) Perlite.
- (16) Vermiculite.
- (17) Mica.
- (18) Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

Nonmetallic mineral processing plant means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in §60.670 (b) and (c).

Portable plant means any nonmetallic mineral processing plant that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit.

Production line means all affected facilities (crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or are connected together by a conveying system.

Saturated material means, for purposes of this subpart, mineral material with sufficient surface moisture such that particulate matter emissions are not generated from processing of the material through screening operations, bucket elevators, and belt conveyors. Material that is wetted solely by wet suppression systems is not considered to be "saturated" for purposes of this definition.

Screening operation means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens). Grizzly feeders associated with truck dumping and static (non-

moving) grizzlies used anywhere in the nonmetallic mineral processing plant are not considered to be screening operations.

Seasonal shut down means shut down of an affected facility for a period of at least 45 consecutive days due to weather or seasonal market conditions.

Size means the rated capacity in tons per hour of a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station; the total surface area of the top screen of a screening operation; the width of a conveyor belt; and the rated capacity in tons of a storage bin.

Stack emission means the particulate matter that is released to the atmosphere from a capture system.

Storage bin means a facility for storage (including surge bins) of nonmetallic minerals prior to further processing or loading.

Transfer point means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.

Truck dumping means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include but are not limited to: Trucks, front end loaders, skip hoists, and railcars.

Vent means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities.

Wet material processing operation(s) means any of the following:

- (1) Wet screening operations (as defined in this section) and subsequent screening operations, bucket elevators and belt conveyors in the production line that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line; or
- (2) Screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations (as defined in this section) that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line.

Wet mining operation means a mining or dredging operation designed and operated to extract any nonmetallic mineral regulated under this subpart from deposits existing at or below the water table, where the nonmetallic mineral is saturated with water.

Wet screening operation means a screening operation at a nonmetallic mineral processing plant which removes unwanted material or which separates marketable fines from the product by a washing process which is designed and operated at all times such that the product is saturated with water.

§ 60.672 Standard for particulate matter (PM).

- (a) Affected facilities must meet the stack emission limits and compliance requirements in Table 2 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.8. The requirements in Table 2 of this subpart apply for affected facilities with capture systems used to capture and transport particulate matter to a control device.
- (b) Affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of this subpart within 60 days after achieving the maximum production rate at which the affected

facility will be operated, but not later than 180 days after initial startup as required under §60.11. The requirements in Table 3 of this subpart apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems.

- (c) [Reserved]
- (d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.
- (e) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a) and (b) of this section, or the building enclosing the affected facility or facilities must comply with the following emission limits:
 - (1) Fugitive emissions from the building openings (except for vents as defined in §60.671) must not exceed 7 percent opacity; and
 - (2) Vents (as defined in §60.671) in the building must meet the applicable stack emission limits and compliance requirements in Table 2 of this subpart.
- (f) Any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance testing) in Table 2 of this subpart but must meet the applicable stack opacity limit and compliance requirements in Table 2 of this subpart. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions.

§ 60.673 Reconstruction.

- (a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital cost that would be required to construct a comparable new facility” under §60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.
- (b) Under §60.15, the “fixed capital cost of the new components” includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

§ 60.674 Monitoring of operations.

- (a) The owner or operator of any affected facility subject to the provisions of this subpart which uses a wet scrubber to control emissions shall install, calibrate, maintain, and operate the following monitoring devices:
 - (1) A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 250 pascals ± 1 inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.
 - (2) A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 5 percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.
- (b) The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control

emissions from the affected facility must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expeditiously as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under §60.676(b).

- (1) If an affected facility relies on water carryover from upstream water sprays to control fugitive emissions, then that affected facility is exempt from the 5-year repeat testing requirement specified in Table 3 of this subpart provided that the affected facility meets the criteria in paragraphs (b)(1)(i) and (ii) of this section:
 - (i) The owner or operator of the affected facility conducts periodic inspections of the upstream water spray(s) that are responsible for controlling fugitive emissions from the affected facility. These inspections are conducted according to paragraph (b) of this section and §60.676(b), and
 - (ii) The owner or operator of the affected facility designates which upstream water spray(s) will be periodically inspected at the time of the initial performance test required under §60.11 of this part and §60.675 of this subpart.
- (2) If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under §60.676(b) must specify the control mechanism being used instead of the water sprays.
- (c) Except as specified in paragraph (d) or (e) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A-7). The Method 22 (40 CFR part 60, Appendix A-7) test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner or operator must record each Method 22 (40 CFR part 60, Appendix A-7) test, including the date and any corrective actions taken, in the logbook required under §60.676(b). The owner or operator of the affected facility may establish a different baghouse-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to §60.675(b) simultaneously with a Method 22 (40 CFR part 60, Appendix A-7) to determine what constitutes normal visible emissions from that affected facility's baghouse when it is in compliance with the applicable PM concentration limit in Table 2 of this subpart. The revised visible emissions success level must be incorporated into the permit for the affected facility.
- (d) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions may use a bag leak detection system. The owner or operator must install, operate, and maintain the bag leak detection system according to paragraphs (d)(1) through (3) of this section.
 - (1) Each bag leak detection system must meet the specifications and requirements in paragraphs (d)(1)(i) through (viii) of this section.

- (i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.
 - (ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (e.g. , using a strip chart recorder or a data logger).
 - (iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (d)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.
 - (iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.
 - (v) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (d)(1)(vi) of this section.
 - (vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (d)(2) of this section.
 - (vii) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.
 - (viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.
- (2) The owner or operator of the affected facility must develop and submit to the Administrator or delegated authority for approval of a site-specific monitoring plan for each bag leak detection system. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (d)(2)(i) through (vi) of this section.
- (i) Installation of the bag leak detection system;
 - (ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;
 - (iii) Operation of the bag leak detection system, including quality assurance procedures;
 - (iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;
 - (v) How the bag leak detection system output will be recorded and stored; and

- (vi) Corrective action procedures as specified in paragraph (d)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.
- (3) For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (d)(2)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:
- (i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;
 - (ii) Sealing off defective bags or filter media;
 - (iii) Replacing defective bags or filter media or otherwise repairing the control device;
 - (iv) Sealing off a defective fabric filter compartment;
 - (v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or
 - (vi) Shutting down the process producing the PM emissions.
- (e) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility that is subject to the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) may follow the continuous compliance requirements in row 1 items (i) through (iii) of Table 6 to Subpart AAAAA of 40 CFR part 63.

§ 60.675 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 appendices A-1 through A-7 of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of this section.
- (b) The owner or operator shall determine compliance with the PM standards in §60.672(a) as follows:
 - (1) Except as specified in paragraphs (e)(3) and (4) of this section, Method 5 of Appendix A-3 of this part or Method 17 of Appendix A-6 of this part shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5 (40 CFR part 60, Appendix A-3), if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.
 - (2) Method 9 of Appendix A-4 of this part and the procedures in §60.11 shall be used to determine opacity.

- (c) (1) In determining compliance with the particulate matter standards in §60.672(b) or §60.672(e)(1), the owner or operator shall use Method 9 of Appendix A–4 of this part and the procedures in §60.11, with the following additions:
- (i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
 - (ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9 of Appendix A–4 of this part, Section 2.1) must be followed.
 - (iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.
- (2) (i) In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under §60.672(f) of this subpart, using Method 9 (40 CFR part 60, Appendix A–4), the duration of the Method 9 (40 CFR part 60, Appendix A–4) observations shall be 1 hour (ten 6-minute averages).
- (ii) The duration of the Method 9 (40 CFR part 60, Appendix A–4) observations may be reduced to the duration the affected facility operates (but not less than 30 minutes) for baghouses that control storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time.
- (3) When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b) or §60.672(e)(1) of this subpart, the duration of the Method 9 (40 CFR part 60, Appendix A–4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of this subpart must be based on the average of the five 6-minute averages.
- (d) To demonstrate compliance with the fugitive emission limits for buildings specified in §60.672(e)(1), the owner or operator must complete the testing specified in paragraph (d)(1) and (2) of this section. Performance tests must be conducted while all affected facilities inside the building are operating.
- (1) If the building encloses any affected facility that commences construction, modification, or reconstruction on or after April 22, 2008, the owner or operator of the affected facility must conduct an initial Method 9 (40 CFR part 60, Appendix A–4) performance test according to this section and §60.11.
 - (2) If the building encloses only affected facilities that commenced construction, modification, or reconstruction before April 22, 2008, and the owner or operator has previously conducted an initial Method 22 (40 CFR part 60, Appendix A–7) performance test showing zero visible emissions, then the owner or operator has demonstrated compliance with the opacity limit in §60.672(e)(1). If the owner or operator has not conducted an initial performance test for the building before April 22, 2008, then the owner or operator must conduct an initial Method 9 (40 CFR part 60, Appendix A–4) performance test according to this section and §60.11 to show compliance with the opacity limit in §60.672(e)(1).

- (e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:
- (1) For the method and procedure of paragraph (c) of this section, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:
 - (i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.
 - (ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.
 - (2) A single visible emission observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions are met:
 - (i) No more than three emission points may be read concurrently.
 - (ii) All three emission points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.
 - (iii) If an opacity reading for any one of the three emission points equals or exceeds the applicable standard, then the observer must stop taking readings for the other two points and continue reading just that single point.
 - (3) Method 5I of Appendix A-3 of this part may be used to determine the PM concentration as an alternative to the methods specified in paragraph (b)(1) of this section. Method 5I (40 CFR part 60, Appendix A-3) may be useful for affected facilities that operate for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations.
 - (4) In some cases, velocities of exhaust gases from building vents may be too low to measure accurately with the type S pitot tube specified in EPA Method 2 of Appendix A-1 of this part [i.e., velocity head <1.3 mm H₂O (0.05 in. H₂O)] and referred to in EPA Method 5 of Appendix A-3 of this part. For these conditions, the owner or operator may determine the average gas flow rate produced by the power fans (e.g., from vendor-supplied fan curves) to the building vent. The owner or operator may calculate the average gas velocity at the building vent measurement site using Equation 1 of this section and use this average velocity in determining and maintaining isokinetic sampling rates.

$$v_e = \frac{Q_f}{A_e} \quad (\text{Eq. 1})$$

Where:

Ve= average building vent velocity (feet per minute);

Qf= average fan flow rate (cubic feet per minute); and

Ae= area of building vent and measurement location (square feet).

- (f) To comply with §60.676(d), the owner or operator shall record the measurements as required in §60.676(c) using the monitoring devices in §60.674 (a)(1) and (2) during each particulate matter run and shall determine the averages.
- (g) For performance tests involving only Method 9 (40 CFR part 60 Appendix A–4) testing, the owner or operator may reduce the 30-day advance notification of performance test in §60.7(a)(6) and 60.8(d) to a 7-day advance notification.
- (h) [Reserved]
- (i) If the initial performance test date for an affected facility falls during a seasonal shut down (as defined in §60.671 of this subpart) of the affected facility, then with approval from the permitting authority, the owner or operator may postpone the initial performance test until no later than 60 calendar days after resuming operation of the affected facility.

§ 60.676 Reporting and recordkeeping.

- (a) Each owner or operator seeking to comply with §60.670(d) shall submit to the Administrator the following information about the existing facility being replaced and the replacement piece of equipment.
 - (1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:
 - (i) The rated capacity in megagrams or tons per hour of the existing facility being replaced; and
 - (ii) The rated capacity in tons per hour of the replacement equipment.
 - (2) For a screening operation:
 - (i) The total surface area of the top screen of the existing screening operation being replaced; and
 - (ii) The total surface area of the top screen of the replacement screening operation.
 - (3) For a conveyor belt:
 - (i) The width of the existing belt being replaced; and
 - (ii) The width of the replacement conveyor belt.
 - (4) For a storage bin:
 - (i) The rated capacity in megagrams or tons of the existing storage bin being replaced; and
 - (ii) The rated capacity in megagrams or tons of replacement storage bins.
- (b) (1) Owners or operators of affected facilities (as defined in §§60.670 and 60.671) for which construction, modification, or reconstruction commenced on or after April 22, 2008, must record each periodic inspection required under §60.674(b) or (c), including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Administrator upon request.

- (2) For each bag leak detection system installed and operated according to §60.674(d), the owner or operator must keep the records specified in paragraphs (b)(2)(i) through (iii) of this section.
 - (i) Records of the bag leak detection system output;
 - (ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and
 - (iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.
- (3) The owner or operator of each affected facility demonstrating compliance according to §60.674(e) by following the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) must maintain records of visible emissions observations required by §63.7132(a)(3) and (b) of 40 CFR part 63, subpart AAAAA.
- (c) During the initial performance test of a wet scrubber, and daily thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.
- (d) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss and liquid flow rate decrease by more than 30 percent from the average determined during the most recent performance test.
- (e) The reports required under paragraph (d) of this section shall be postmarked within 30 days following end of the second and fourth calendar quarters.
- (f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672 of this subpart, including reports of opacity observations made using Method 9 (40 CFR part 60, Appendix A-4) to demonstrate compliance with §60.672(b), (e) and (f).
- (g) The owner or operator of any wet material processing operation that processes saturated and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. At the time of such change, this screening operation, bucket elevator, or belt conveyor becomes subject to the applicable opacity limit in §60.672(b) and the emission test requirements of §60.111.
- (h) The subpart A requirement under §60.7(a)(1) for notification of the date construction or reconstruction commenced is waived for affected facilities under this subpart.
- (i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.
 - (1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.

- (2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.
- (j) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected facilities within the State will be relieved of the obligation to comply with the reporting requirements of this section, provided that they comply with requirements established by the State.
- (k) Notifications and reports required under this subpart and under subpart A of this part to demonstrate compliance with this subpart need only to be sent to the EPA Region or the State which has been delegated authority according to §60.4(b).

Table 1 to Subpart OOO—Exceptions to Applicability of Subpart A to Subpart OOO

Table 1 to Subpart OOO—Exceptions to Applicability of Subpart A to Subpart OOO

Subpart A reference	Applies to subpart OOO	Explanation
60.4, Address	Yes	Except in §60.4(a) and (b) submittals need not be submitted to both the EPA Region and delegated State authority (§60.676(k)).
60.7, Notification and recordkeeping	Yes	Except in (a)(1) notification of the date construction or reconstruction commenced (§60.676(h)).
		Also, except in (a)(6) performance tests involving only Method 9 (40 CFR part 60, Appendix A-4) require a 7-day advance notification instead of 30 days (§60.675(g)).
60.8, Performance tests	Yes	Except in (d) performance tests involving only Method 9 (40 CFR part 60, Appendix A-4) require a 7-day advance notification instead of 30 days (§60.675(g)).
60.11, Compliance with standards and maintenance requirements	Yes	Except in (b) under certain conditions (§§60.675(c)), Method 9 (40 CFR part 60, Appendix A-4) observation is reduced from 3 hours to 30 minutes for fugitive emissions.
60.18, General control device	No	Flares will not be used to comply with the emission limits.

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Table 2 to Subpart 000—Stack Emission Limits for Affected Facilities With Capture Systems

Table 2 to Subpart 000—Stack Emission Limits for Affected Facilities With Capture Systems

For * * *	The owner or operator must meet a PM limit of * * *	And the owner or operator must meet an opacity limit of * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in §§60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008	0.05 g/dscm (0.022 gr/dscf) ^a	7 percent for dry control devices ^b	An initial performance test according to §60.8 of this part and §60.675 of this subpart; and Monitoring of wet scrubber parameters according to §60.674(a) and §60.676(c), (d), and (e).
Affected facilities (as defined in §§60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	0.032 g/dscm (0.014 gr/dscf) ^a	Not applicable (except for individual enclosed storage bins) 7 percent for dry control devices on individual enclosed storage bins	An initial performance test according to §60.8 of this part and §60.675 of this subpart; and Monitoring of wet scrubber parameters according to §60.674(a) and §60.676(c), (d), and (e); and
			Monitoring of baghouses according to §60.674(c), (d), or (e) and §60.676(b).

^aExceptions to the PM limit apply for individual enclosed storage bins and other equipment. See §60.672(d) through (f).

^bThe stack opacity limit and associated opacity testing requirements do not apply for affected facilities using wet scrubbers.

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Table 3 to Subpart 000—Fugitive Emission Limits

Table 3 to Subpart 000—Fugitive Emission Limits

For * * *	The owner or operator must meet the following fugitive emissions limit for grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility (as defined in §§60.670 and 60.671) * * *	The owner or operator must meet the following fugitive emissions limit for crushers at which a capture system is not used * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in §§60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008	10 percent opacity	15 percent opacity	An initial performance test according to §60.11 of this part and §60.675 of this subpart.
Affected facilities (as defined in §§60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	7 percent opacity	12 percent opacity	An initial performance test according to §60.11 of this part and §60.675 of this subpart; and Periodic inspections of water sprays according to §60.674(b) and §60.676(b); and
			A repeat performance test according to §60.11 of this part and §60.675 of this subpart within 5 years from the previous performance test for fugitive emissions from affected facilities without water sprays. Affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in §60.674(b) and §60.676(b) are exempt from this 5-year repeat testing requirement.

Reference:

The US EPA Electronic Code of Federal Regulations - 40 CFR 60, Subpart 000—Standards Of Performance For Nonmetallic Mineral Processing Plants weblink:
<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=43918166a5e8fa1b77b615cd0efc6c39&rqn=div6&view=text&node=40:6.0.1.1.1.80&idno=40>

**FEDERALLY ENFORCEABLE
STATE OPERATING PERMIT
OFFICE OF AIR QUALITY**

**Rieth-Riley Construction Company, Inc.
(Plant #366)
2454 West CR 450 North
LaPorte, IN 46350**

Attachment D

Title 40: Protection of Environment

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

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

F091-29725-03179

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

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

What This Subpart Covers

§ 63.11110 What is the purpose of this subpart?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Emission Limitations and Management Practices

§ 63.11115 What are my general duties to minimize emissions?

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

(a) You must, at all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

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

[76 FR 4182, Jan. 24, 2011]

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

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

(1) Minimize gasoline spills;

(2) Clean up spills as expeditiously as practicable;

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Testing and Monitoring Requirements

§ 63.11120 What testing and monitoring requirements must I meet?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Notifications, Records, and Reports

§ 63.11124 What notifications must I submit and when?

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

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

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

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

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

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

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

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

(1) You must submit an Initial Notification that you are subject to this subpart by May 9, 2008, or at the time you become subject to the control requirements in §63.11118. If your affected source is subject to the control requirements in §63.11118 only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must submit the Initial Notification by May 24, 2011. The Initial Notification must contain the information specified in paragraphs (b)(1)(i) through (iii) of this section. The notification must be submitted to the applicable EPA Regional Office and delegated State authority as specified in §63.13.

- (i) The name and address of the owner and the operator.
- (ii) The address (i.e., physical location) of the GDF.
- (iii) A statement that the notification is being submitted in response to this subpart and identifying the requirements in paragraphs (a) through (c) of §63.11118 that apply to you.

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

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

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

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

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

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

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

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

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

§ 63.11125 What are my recordkeeping requirements?

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

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

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

of vapor tightness testing must be retained as specified in either paragraph (c)(1) or paragraph (c)(2) of this section.

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

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

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

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

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

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

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

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

§ 63.11126 What are my reporting requirements?

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

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

[76 FR 4183, Jan. 24, 2011]

Other Requirements and Information

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

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

§ 63.11131 Who implements and enforces this subpart?

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

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

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

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

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

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

§ 63.11132 What definitions apply to this subpart?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

If you own or operate	Then you must
1. A new, reconstructed, or existing GDF subject to §63.11118	Install and operate a vapor balance system on your gasoline storage tanks that meets the design criteria in paragraphs (a) through (h).
	(a) All vapor connections and lines on the storage tank shall be equipped with closures that seal upon disconnect.
	(b) The vapor line from the gasoline storage tank to the gasoline cargo tank shall be vapor-tight, as defined in §63.11132.
	(c) The vapor balance system shall be designed such that the pressure in the tank truck does not exceed 18 inches water pressure or 5.9 inches water vacuum during product transfer.
	(d) The vapor recovery and product adaptors, and the method of connection with the delivery elbow, shall be designed so as to prevent the over-tightening or loosening of fittings during normal delivery operations.
	(e) If a gauge well separate from the fill tube is used, it shall be provided with a submerged drop tube that extends the same distance from the bottom of the storage tank as specified in §63.11117(b).
	(f) Liquid fill connections for all systems shall be equipped with vapor-tight caps.
	(g) Pressure/vacuum (PV) vent valves shall be installed on the storage tank vent pipes. The pressure specifications for PV vent valves shall be: a positive pressure setting of 2.5 to 6.0 inches of water and a negative pressure setting of 6.0 to 10.0 inches of water. The total leak rate of all PV vent valves at an affected facility, including connections, shall not exceed 0.17 cubic foot per hour at a pressure of 2.0 inches of water and 0.63 cubic foot per hour at a vacuum of 4 inches of water.
	(h) The vapor balance system shall be capable of meeting the static pressure performance requirement of the following equation:
	$Pf = 2e^{-500.887/v}$
	Where:
	Pf = Minimum allowable final pressure, inches of water.

If you own or operate	Then you must
	v = Total ullage affected by the test, gallons.
	e = Dimensionless constant equal to approximately 2.718.
	2 = The initial pressure, inches water.
2. A new or reconstructed GDF, or any storage tank(s) constructed after November 9, 2006, at an existing affected facility subject to §63.11118	Equip your gasoline storage tanks with a dual-point vapor balance system, as defined in §63.11132, and comply with the requirements of item 1 in this Table.

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

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

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

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

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

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

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

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

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

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

Citation	Subject	Brief description	Applies to subpart CCCCCC
		appendix A of part 60 of this chapter), and EPA Method 22 (in appendix A of part 60 of this chapter) results, as well as information about operation and maintenance to determine compliance	
§63.6(h)(9)	Adjusted Opacity Standard	Procedures for Administrator to adjust an opacity standard	No.
§63.6(i)(1)–(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	Yes.
§63.6(j)	Presidential Compliance Exemption	President may exempt any source from requirement to comply with this subpart	Yes.
§63.7(a)(2)	Performance Test Dates	Dates for conducting initial performance testing; must conduct 180 days after compliance date	Yes.
§63.7(a)(3)	CAA Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time	Yes.
§63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes.
§63.7(b)(2)	Notification of Re-scheduling	If have to reschedule performance test, must notify Administrator of rescheduled date as soon as practicable and without delay	Yes.
§63.7(c)	Quality Assurance (QA)/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing	Yes.

Citation	Subject	Brief description	Applies to subpart CCCCCC
§63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
63.7(e)(1)	Conditions for Conducting Performance Tests	Performance test must be conducted under representative conditions	No, §63.11120(c) specifies conditions for conducting performance tests.
§63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to this subpart and EPA test methods unless Administrator approves alternative	Yes.
§63.7(e)(3)	Test Run Duration	Must have three test runs of at least 1 hour each; compliance is based on arithmetic mean of three runs; conditions when data from an additional test run can be used	Yes.
§63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an intermediate or major change, or alternative to a test method	Yes.
§63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; must submit performance test data 60 days after end of test with the Notification of Compliance Status; keep data for 5 years	Yes.
§63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test	Yes.
§63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes.
§63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of 40 CFR part 60 apply	Yes.

Citation	Subject	Brief description	Applies to subpart CCCCCC
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring of Flares	Monitoring requirements for flares in §63.11 apply	Yes.
§63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	Yes.
§63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems; must install on each affected source or after combined with another affected source before it is released to the atmosphere provided the monitoring is sufficient to demonstrate compliance with the standard; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup	No.
§63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with good air pollution control practices	No.
§63.8(c)(1)(i)–(iii)	Operation and Maintenance of Continuous Monitoring Systems (CMS)	Must maintain and operate each CMS as specified in §63.6(e)(1); must keep parts for routine repairs readily available; must develop a written SSM plan for CMS, as specified in §63.6(e)(3)	No.
§63.8(c)(2)–(8)	CMS Requirements	Must install to get representative emission or parameter measurements; must verify operational status before or at performance test	No.
§63.8(d)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc.; must keep quality control	No.

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

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

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

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

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

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

Resources

EPA Gasoline Dispensing Facilities (GDF) Brochure, weblink: <http://www.epa.gov/ttn/atw/area/gdfb.pdf>

EPA Summary of Regulations Controlling Air Emissions from Gasoline Dispensing Facilities (GDF) Fact Sheet <http://www.epa.gov/ttn/atw/area/gdfb.pdf>

Reference

The US EPA Electronic Code of Federal Regulations - 40 CFR 63, Subpart CCCCCC National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities weblink: <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=ec747058ccd5763d83153eaa83fe7220&rqn=div6&view=text&node=40:14.0.1.1.1.15&idno=40>

**FEDERALLY ENFORCEABLE
STATE OPERATING PERMIT RENEWAL
OFFICE OF AIR QUALITY**

**Rieth-Riley Construction Company, Inc.
(Plant #366)
2454 West CR 450 North
LaPorte, IN 46350**

Attachment E

Title 40: Protection of Environment

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

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

F091-29725-03179

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

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

What This Subpart Covers

§ 63.11193 Am I subject to this subpart?

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

§ 63.11194 What is the affected source of this subpart?

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

§ 63.11195 Are any boilers not subject to this subpart?

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

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

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

§ 63.11196 What are my compliance dates?

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

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

§ 63.11200 What are the subcategories of boilers?

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

§ 63.11201 What standards must I meet?

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

General Compliance Requirements

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

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

Initial Compliance Requirements

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

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

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

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

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

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

Where:

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

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

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

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

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

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

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

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

Continuous Compliance Requirements

§ 63.11220 When must I conduct subsequent performance tests?

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

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

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

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

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

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

new operating limits. Operating limits are confirmed or reestablished during performance tests.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Other Requirements and Information

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

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

§ 63.11236 Who implements and enforces this subpart?

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

§ 63.11237 What definitions apply to this subpart?

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

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

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

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

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

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

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

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

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

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

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

Deviation

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Natural gas means:

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

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

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

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

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

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

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

Qualified energy assessor means:

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

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

Responsible official means responsible official as defined in §70.2.

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

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

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

Table 1 to Subpart JJJJJJ of Part 63_Emission Limits

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

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

million Btu per hour or greater.

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

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

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

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

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

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

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

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

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

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

 \a\ Incorporated by reference, see § 63.14.

Table 5 to Subpart JJJJJJ of Part 63_Fuel Analysis Requirements

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

To conduct a fuel analysis for the following pollutant	You must. . .	Using . . .

1. Mercury.....	a. Collect fuel samples.	Procedure in § 63.11213(b) or ASTM D2234/D2234M \a\ (for coal) or ASTM D6323 \a\ (for biomass) or equivalent.
	b. Compose fuel samples.	Procedure in § 63.11213(b) or

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

\a\
Incorporated by reference, see § 63.14.

Table 7 to Subpart DDDDD of Part 63_Demonstrating Continuous Compliance

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

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

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

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

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

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

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

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

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

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

Reference

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

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

Indiana Department of Environmental Management Office of Air Quality

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

Source Background and Description

Source Name: Rieth-Riley Construction Co., Inc.
Source Location: 2454 West CR 450 North, LaPorte, Indiana 46350
County: LaPorte
SIC Code: 2951
Permit Renewal No.: F091-29725-03179
Permit Reviewer: Hannah L. Desrosiers

On May 31, 2011, the Office of Air Quality (OAQ) had a notice published in The LaPorte County Herald - Argus, LaPorte, Indiana, stating that Rieth-Riley Construction Co., Inc. had applied for a new source review and renewal of its operating permit, for their existing stationary drum hot-mix asphalt plant (#366) and cold-mix asphalt production operation. Rieth-Riley Construction Co., Inc. (Plant #366) applied to construct a new intermittent recycled asphalt pavement (RAP) crushing and asbestos-free shingle (factory seconds and/or post consumer waste) grinding operation, which will not increase the potential to emit air pollutants from the source. The notice also stated that the OAQ proposed to issue a FESOP Renewal for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

On June 20, 2011, Mr. Edward Clements, Environmental Engineer for Rieth-Riley Construction Co., Inc., submitted comments to IDEM, OAQ on the draft FESOP Renewal.

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

Comment 1:

Propane and Butane are correctly listed as back-up fuels in the emission unit description sections of the permit, and are included in the emission calculations, however, the compliance determination requirements contained in Conditions D.1.12(d) and (e), pages 35 and 36 of 58 of the permit, and the corresponding FESOP Quarterly reporting form, pages 51 and 52 of 58 of the permit, do not contain reference to, or emission factors for, these fuels. Please add these fuels accordingly.

Response to Comment 1:

IDEM agrees with the recommended changes, since the information is necessary for the source to determine compliance with their SO₂ and NO_x limits using the equation.

The permit has been revised as follows:

D.1.12 Asphalt, Fuel, and Slag Limitations

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

$$S = \frac{[G(0.6) + H(0.6) + O(0.071) + E(0.071) + F(0.075) + \mathbf{P(0.00002)} + \mathbf{B(0.00002)} + D(0.040) + A(0.0014) + L(0.5413) + X(0.74)] + U(0.147)}{2000}$$

Where:

P = gallons of propane used in dryer/mixer and hot oil heaters in previous 12 months;

B = gallons of butane used in dryer/mixer and hot oil heaters in previous 12 months;

Emission Factors:

Propane (dryer/mixer/heaters) = 0.00002 pounds per gallon of propane;

Butane (dryer/mixer/heaters) = 0.00002 pounds per gallon of butane;

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

$$N = \frac{[G(190) + H(100) + O(0.024) + E(0.020) + F(0.047) + P(0.013) + B(0.015) + D(0.604) + U(0.016)]}{2000}$$

Where:

P = gallons of propane used in dryer/mixer and hot oil heaters in previous 12 months;

B = gallons of butane used in dryer/mixer and hot oil heaters in previous 12 months;

Emission Factors

Propane (dryer/mixer/heaters) = 0.013 pounds per gallon of propane;

Butane (dryer/mixer/heaters) = 0.015 pounds per gallon of butane;

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

FESOP Quarterly Report
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Source Name: Rieth-Riley Construction Co., Inc. (Plant #366)

Parameter: SO2 and NOx emissions

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

$$S = \frac{[G(0.6) + H(0.6) + O(0.071) + E(0.071) + F(0.075) + P(0.00002) + B(0.00002) + D(0.040) + A(0.0014) + L(0.5413) + X(0.74)] + U(0.147)}{2000}$$

<p><u>Where:</u></p> <p>*****</p> <p>P = gallons of propane used in dryer/mixer and hot oil heaters in previous 12 months;</p> <p>B = gallons of butane used in dryer/mixer and hot oil heaters in previous 12 months;</p> <p>*****</p>	<p>Emission Factors</p> <p>*****</p> <p>Propane (dryer/mixer/heaters) = 0.00002 pounds per gallon of propane;</p> <p>Butane (dryer/mixer/heaters) = 0.00002 pounds per gallon of butane;</p> <p>*****</p>
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Nitrogen oxide (NOx) emissions shall be determined using the following equation:

$$N = \frac{[G(190) + H(100) + O(0.024) + E(0.020) + F(0.047) + P(0.013) + B(0.015) + D(0.604) + U(0.016)]}{2000}$$

<p><u>Where:</u> ***** P = gallons of propane used in dryer/mixer and hot oil heaters in previous 12 months; B = gallons of butane used in dryer/mixer and hot oil heaters in previous 12 months; *****</p>	<p><u>Emission Factors</u> ***** Propane (dryer/mixer/heaters) = 0.013 pounds per gallon of propane; Butane (dryer/mixer/heaters) = 0.015 pounds per gallon of butane; *****</p>
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FESOP Fuel Usage, Slag Usage, and SO2 and NOx Emissions Quarterly Reporting Form

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Quarter: _____ Year: _____

Month	Fuel Types (units)	Column 1	Column 2	Column 1 + Column 2	Total SO2 Emissions From All Fuels and Slag Used (tons per 12 month consecutive period)	Total NOx Emissions From All Fuels Used (tons per 12 month consecutive period)	Total CO2e Emissions From All Fuels Used (tons per 12 month consecutive period)
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total			
Month 1	*****						
	Propane (dryer/mixer & heaters) (gallons)						
	Butane (dryer/mixer & heaters) (gallons)						

Month 2	*****						
	Propane (dryer/mixer & heaters) (gallons)						
	Butane (dryer/mixer & heaters) (gallons)						

Month 3	*****						
	Propane (dryer/mixer & heaters) (gallons)						
	Butane (dryer/mixer & heaters) (gallons)						

Additional Changes

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes.

IDEM, OAQ has decided to make additional revisions to the permit, as described, as follows:

- (a) Pursuant to 326 IAC 2-7-1(39), starting July 1, 2011, greenhouse gases (GHGs) emissions are subject to regulation at a source with a potential to emit 100,000 tons per year or more of CO2 equivalent emissions (CO2e). Therefore, CO2e emissions have been calculated for this source. See page 11 of 13 of this ATSD for a summary table, and ATSD Appendix A for detailed calculations.

The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) of CO2 equivalent emissions (CO2e) from this existing source is equal to or greater than one hundred thousand (100,000)

tons per year. The source would have been subject to the provisions of 326 IAC 2-7. However, the source will be issued a Federally Enforceable State Operating Permit (FESOP) Renewal (326 IAC 2-8), because the source will limit CO₂ equivalent emissions (CO₂e) emissions to less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons per year).

Since the potential to emit is greater than 100,000 tons per year of CO₂e, the following limitations have been added to the permit:

- (1) In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), CO₂ equivalent emissions (CO₂e) from the dryer/mixer burner, hot oil heaters, and diesel fuel-fired portable crusher, shall not exceed ninety-nine thousand (99,000) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limit, combined with the potential to emit greenhouse gases from all other emission units at this source, shall limit the source-wide total potential to emit of greenhouse gases to less than 100,000 tons CO₂ equivalent emissions (CO₂e) per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

- (2) In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, CO₂ equivalent emissions (CO₂e) from the dryer/mixer burner, hot oil heaters, and diesel fuel-fired portable crusher, shall not exceed ninety-nine thousand (99,000) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limit, combined with the potential to emit greenhouse gases from all other emission units at this source, shall limit the source-wide total potential to emit of greenhouse gases to less than 100,000 tons of CO₂ equivalent emissions (CO₂e) per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

- (b) IDEM has performed an applicability determination for the recently promulgated National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ (6J). NESHAP 6J applicability, evaluated for the fuel combustion in the dryer, HOH and diesel-fired crusher, is as follows:

- (1) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ (6J), are not included in the permit for the dryer/mixer burner or diesel-fired crusher, since although this existing source is an area source of hazardous air pollutants (HAP), as defined in §63.2, the dryer/mixer burner and diesel-fired crusher are each a direct-fired process unit and not a boiler, as defined in 40 CFR 63.11237.

- (2) The two (2), two (2.0) million British thermal units per hour (MMBtu/hr) hot oil heaters, identified as 14A and 14B, are each subject to the National Emission Standards for Hazardous Air Pollutants for the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ (6J), since this existing source is an area source of hazardous air pollutants (HAP), as defined in §63.2, and because the two (2), two (2.0) MMBtu/hr hot oil heaters can fire either natural gas or No. 2 fuel oil.

The units subject to this rule include the following:

- Each boiler that combusts coal, biomass, and/or oil.

Applicable portions of the NESHAP are the following:

(A)	40 CFR 63.11193;	(I)	40 CFR 63.11223(a),(b)(1) - (7);
(B)	40 CFR 63.11194(a)(1),(b),(e);	(J)	40 CFR 63.11225(a),(b),(c),(d),(g);
(C)	40 CFR 63.11196(a)(1);	(K)	40 CFR 63.11235
(D)	40 CFR 63.11200;	(L)	40 CFR 63.11236
(E)	40 CFR 63.11201(b),(d);	(M)	40 CFR 63.11237
(F)	40 CFR 63.11205(a);	(N)	Table 2
(G)	40 CFR 63.11210(c);	(O)	Table 8
(H)	40 CFR 63.11214(b);		

Note: There are no testing requirements applicable to this source for this NESHAP.

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the two (2), two (2.0) MMBtu/hr hot oil heaters, identified as 14A and 14B, except as otherwise specified in 40 CFR 63, Subpart JJJJJJ.

The Permit has been revised as follows, with deleted language shown as ~~strikeouts~~ and new language **bolded**. Permit conditions have been renumbered as needed to accommodate the above-listed revisions.

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

This stationary source also includes the following insignificant activities:

- (a) One (1) liquid asphalt cement hot oil heating system, constructed in 2001, including two (2) hot oil heaters, identified as 14A and 14B, with a maximum heat input capacity of two (2.0) million British thermal units per hour, each, firing natural gas or No. 2 fuel oil, uncontrolled and exhausting to Stacks SV2 and SV3, respectively; [326 IAC 6-2] **[40 CFR 63, Subpart JJJJJJ]**

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:

- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period.**

D.1.3 SO₂, NO_x, VOC, **CO₂e**, and HAP Limitations [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-4.1]

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

- (d) CO₂ equivalent emissions (CO₂e) from the dryer/mixer burner, hot oil heaters, and diesel fuel-fired portable crusher, shall not exceed ninety-nine thousand (99,000) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**

- (ed)**

Compliance with these limits, combined with the potential to emit SO₂, NO_x, VOC, **greenhouse gases**, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO₂, NO_x, and VOC to less than one hundred (100) tons per twelve (12) consecutive month period, each, **greenhouse gases to less than 100,000 tons CO₂ equivalent emissions (CO₂e) per 12 consecutive month period**, any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description [326 IAC 2-8-4(10)]: Hot-Mix Asphalt Facility

Insignificant Activities

- (a) One (1) liquid asphalt cement hot oil heating system, constructed in 2001, including two (2) hot oil heaters, identified as 14A and 14B, with a maximum heat input capacity of two (2.0) million British thermal units per hour, each, firing natural gas or No. 2 fuel oil, uncontrolled and exhausting to Stacks SV2 and SV3, respectively; [326 IAC 6-2] **[40 CFR 63, Subpart JJJJJJ]**

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

D.1.12 Asphalt, Fuel, and Slag Limitations

- (f) **CO₂ equivalent emissions (CO₂e) shall be determined using the following equations:**

$$\text{CO}_2 = \frac{[G(X_G) + O(X_O) + F(X_F) + P(X_P) + B(X_B) + D(X_D) + U(X_U)]}{2,000}$$

$$\text{CH}_4 = \frac{[G(X_G) + O(X_O) + F(X_F) + P(X_P) + B(X_B) + D(X_D) + U(X_U)]}{2,000}$$

$$\text{N}_2\text{O} = \frac{[G(X_G) + O(X_O) + F(X_F) + P(X_P) + B(X_B) + D(X_D) + U(X_U)]}{2,000}$$

$$\text{CO}_2\text{e} = \sum[(\text{CO}_2 \times \text{CO}_2 \text{ GWP}) + (\text{CH}_4 \times \text{CH}_4 \text{ GWP}) + (\text{N}_2\text{O} \times \text{N}_2\text{O} \text{ GWP})]$$

Where:

CO₂ = tons of CO₂ emissions for previous 12 consecutive month period;

CH₄ = tons of CH₄ emissions for previous 12 consecutive month period;

N₂O = tons of N₂O emissions for previous 12 consecutive month period;

CO₂e = tons of CO₂e equivalent emissions for previous 12 consecutive month period;
G = million cubic feet of natural gas used in dryer/mixer and hot oil heater in previous 12 months;

O = gallons of No. 2 fuel oil used in dryer/mixer and hot oil heater in previous 12 months;

F = gallons of No. 4 fuel oil used in dryer/mixer in previous 12 months;

P = gallons of propane used in dryer/mixer and hot oil heater in previous 12 months;

B = gallons of butane used in dryer/mixer and hot oil heater in previous 12 months;

D = gallons of diesel fuel oil used in crusher in previous 12 months; and

U = gallons of waste oil used in dryer/mixer in previous 12 months.

Emission Factors - CO₂:

X_G (dryer/mixer/heater) = 120,161.84 pounds per million cubic feet of natural gas;
 X_O (dryer/mixer/heater) = 22,501.41 x 10³ pounds per gallon of No. 2 fuel oil;
 X_F (dryer/mixer) = 24,153.46 x 10³ pounds per gallon of No. 4 fuel oil;
 X_P (dryer/mixer/heater) = 12,500.00 x 10³ pounds per gallon of propane;
 X_B (dryer/mixer/heater) = 14,506.73 x 10³ pounds per gallon of butane;
 X_D (crusher) = 22,472.92 x 10³ pounds per gallon of diesel fuel oil; and
 X_U (dryer/mixer) = 22,024.15 x 10³ pounds per gallon of waste oil;

Emission Factors - CH₄:

X_G (dryer/mixer/heater) = 0.00249 pounds per million cubic feet of natural gas;
 X_O (dryer/mixer/heater) = 0.00091 pounds per gallon of No. 2 fuel oil;
 X_F (dryer/mixer) = 0.00097 pounds per gallon of No. 4 fuel oil;
 X_P (dryer/mixer/heater) = 0.00060 pounds per gallon of propane;
 X_B (dryer/mixer/heater) = 0.00067 pounds per gallon of butane;
 X_D (crusher) = 0.00091 pounds per gallon of diesel fuel oil; and
 X_U (dryer/mixer) = 0.00089 pounds per gallon of waste oil;

Emission Factors - N₂O:

X_G (dryer/mixer/heater) = 0.0022 pounds per million cubic feet of natural gas;
 X_O (dryer/mixer/heater) = 0.00026 pounds per gallon of No. 2 fuel oil;
 X_F (dryer/mixer) = 0.00019 pounds per gallon of No. 4 fuel oil;
 X_P (dryer/mixer/heater) = 0.0009 pounds per gallon of propane;
 X_B (dryer/mixer/heater) = 0.0009 pounds per gallon of butane;
 X_D (crusher) = 0.00018 pounds per gallon of diesel fuel oil; and
 X_U (dryer/mixer) = 0.00018 pounds per gallon of waste oil;

Greenhouse Warming Potentials (GWP)

Carbon dioxide (CO₂) = 1
Methane (CH₄) = 21
Nitrous oxide (N₂O) = 310

(gf)

SECTION E.4

NESHAP REQUIREMENTS

Emissions Unit Description: Boilers (Hot Oil Heaters)

- (a) One (1) liquid asphalt cement hot oil heating system, constructed in 2001, including two (2) hot oil heaters, identified as 14A and 14B, with a maximum heat input capacity of two (2.0) million British thermal units per hour, each, firing natural gas or No. 2 fuel oil, uncontrolled and exhausting to Stacks SV2 and SV3, respectively; [326 IAC 6-2] [40 CFR 63, Subpart JJJJJJ]

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

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

E.4.1 General Provisions Relating to the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources (40 CFR 63, Subpart JJJJJJ) [326 IAC 20-1] [40 CFR Part 63, Subpart A]

Pursuant to §63.11130, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 8 of 40 CFR Part 63, Subpart JJJJJJ, and in accordance with the schedule in 40 CFR 63 Subpart JJJJJJ.

E.4.2 National Emission Standards for Hazardous Air Pollutants (NESHAPs): Area Source Standards for Industrial, Commercial, and Institutional Boilers Area Sources [40 CFR 63, Subpart JJJJJJ] [326 IAC 20]

Pursuant to 40 CFR § 63.11112(a), the emission sources to which this subpart applies are each new, reconstructed, or existing industrial, commercial, and/or institutional boiler within a subcategory (coal, biomass, oil), as listed in §63.11200 and defined in §63.11237, located at an area source.

The two (2) hot oil heaters, identified as 14A and 14B, are each therefore subject to the following portions of Subpart JJJJJJ (6J) (included as Attachment E of this permit):

- (A) 40 CFR 63.11193;
- (B) 40 CFR 63.11194(a)(1),(b),(e);
- (C) 40 CFR 63.11196(a)(1);
- (D) 40 CFR 63.11200;
- (E) 40 CFR 63.11201(b),(d);
- (F) 40 CFR 63.11205(a);
- (G) 40 CFR 63.11210(c);
- (H) 40 CFR 63.11214(b);
- (I) 40 CFR 63.11223(a),(b)(1) - (7);
- (J) 40 CFR 63.11225(a),(b),(c),(d),(g);
- (K) 40 CFR 63.11235
- (L) 40 CFR 63.11236
- (M) 40 CFR 63.11237
- (N) Table 2
- (O) Table 8

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Source Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
FESOP Permit No.: F091-29725-03179
Facility: Dryer/mixer burner, hot oil heaters, diesel fuel oil-fired portable crusher, and blast furnace and electric arc furnace steel mill slag processing
Parameter: SO₂, ~~and~~ NO_x, **and CO₂e** emissions
Limit: SO₂ emissions from the dryer/mixer burner, hot oil heater, diesel fuel oil-fired portable crusher, and blast furnace and electric arc furnace steel mill slag processing shall not exceed 99.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month; ~~and~~
NO_x emissions from the dryer/mixer burner, hot oil heaters, and diesel fuel oil-fired portable crusher shall not exceed 99.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month; ~~and~~ **and CO₂e emissions from the dryer/mixer burner, hot oil heaters, and diesel fuel oil-fired portable crusher shall not exceed 99,000) tons per twelve (12)**

consecutive month period, with compliance determined at the end of each month.

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

$$S = \frac{[G(0.6) + H(0.6) + O(0.071) + E(0.071) + F(0.075) + P(0.00002) + B(0.00002) + D(0.040) + A(0.0014) + L(0.5413) + X(0.74)] + U(0.147)}{2000}$$

Where:	Emission Factors:
S = tons of sulfur dioxide emissions for previous 12 consecutive month period;	Natural Gas (dryer/mixer) = 0.6 pounds per million cubic feet of natural gas;
G = million cubic feet of natural gas used in dryer/mixer in previous 12 months;	Natural Gas (hot oil heater) = 0.6 pounds per million cubic feet of natural gas;
H = million cubic feet of natural gas used in hot oil heater in previous 12 months;	No. 2 Fuel Oil (dryer/mixer/heater) = 0.071 pounds per gallon of No. 2 fuel oil;
O = gallons of No. 2 fuel oil used in dryer/mixer and heater in previous 12 months;	No. 2 Fuel Oil (hot oil heater) = 0.071 pounds per gallon of No. 2 fuel oil;
E = gallons of No. 2 fuel oil used in hot oil heater in previous 12 months;	No. 4 Fuel Oil (dryer/mixer) = 0.075 pounds per gallon of No. 4 fuel oil;
F = gallons of No. 4 fuel oil used in dryer/mixer in previous 12 months;	Propane (dryer/mixer/heaters) = 0.00002 pounds per gallon of propane;
P = gallons of propane used in dryer/mixer and hot oil heaters in previous 12 months;	Butane (dryer/mixer/heaters) = 0.00002 pounds per gallon of butane;
B = gallons of butane used in dryer/mixer and hot oil heaters in previous 12 months;	Diesel Fuel Oil (portable crusher) = 0.040 pounds per gallon of diesel fuel oil;
D = gallons of diesel fuel oil used in portable crusher in previous 12 months;	Electric Arc Furnace Steel Mill Slag = 0.0014 pounds per ton of electric arc furnace steel mill slag processed; and
A = tons of electric arc furnace steel mill slag used in dryer/mixer in previous 12 months;	Blast Furnace Slag = 0.5413 pounds per ton of blast furnace slag processed, with a 30 day calendar month average sulfur content less than or equal to 1.11 percent by weight or 0.74 pounds per ton of blast furnace slag processed, with a 30 day calendar month average sulfur content greater than 1.11 percent by weight but less than or equal to 1.5 percent by weight.
L = tons of blast furnace slag as defined by Condition D.1.12(a); and	Waste Oil (dryer/mixer) = 0.147 pounds per gallon of waste oil;
X = tons of blast furnace slag as defined by Condition D.1.12(b);	
U = gallons of waste oil as defined by Condition D.1.12(c);	

Nitrogen oxide (NO_x) emissions shall be determined using the following equation:

$$N = \frac{[G(190) + H(100) + O(0.024) + E(0.020) + F(0.047) + P(0.013) + B(0.015) + D(0.604) + U(0.016)]}{2000}$$

Where:	Emission Factors:
N = tons of nitrogen oxide emissions for previous 12 consecutive month period;	Natural Gas (dryer/mixer) = 190 pounds per million cubic feet of natural gas;
G = million cubic feet of natural gas used in dryer/mixer in previous 12 months;	Natural Gas (hot oil heater) = 100 pounds per million cubic feet of natural gas;
H = million cubic feet of natural gas used in hot oil heater in previous 12 months;	No. 2 Fuel Oil (dryer/mixer) = 0.024 pounds per gallon of No. 2 fuel oil;
O = gallons of No. 2 fuel oil used in dryer/mixer in previous 12 months;	No. 2 Fuel Oil (hot oil heater) = 0.020 pounds per gallon of No. 2 fuel oil;
E = gallons of No. 2 fuel oil used in hot oil heater in previous 12 months;	No. 4 Fuel Oil (dryer/mixer) = 0.047 pounds per gallon of No. 4 fuel oil;
F = gallons of No. 4 fuel oil used in dryer/mixer in previous 12 months;	Propane (dryer/mixer/heaters) = 0.013 pounds per gallon of propane;
P = gallons of propane used in dryer/mixer and hot oil heaters in previous 12 months;	Butane (dryer/mixer/heaters) = 0.015 pounds per gallon of butane;
B = gallons of butane used in dryer/mixer and hot oil heaters in previous 12 months;	Diesel Fuel Oil (portable crusher) = 0.604 pounds per gallon of diesel fuel oil;
D = gallons of diesel fuel oil used in portable crusher in previous 12 months;	Waste Oil (dryer/mixer) = 0.016 pounds per gallon of waste oil.
U = gallons of waste oil used in dryer/mixer in previous 12 months.	

Quarter: _____ Year: _____

Month	Fuel Types (units)	Column 1	Column 2	Column 1 + Column 2	Total SO ₂ Emissions From All Fuels and Slag Used (tons per 12 month consecutive period)	Total NO _x Emissions From All Fuels Used (tons per 12 month consecutive period)	Total CO _{2e} Emissions From All Fuels Used (tons per 12 month consecutive period)
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total			
Month 1	Natural gas (dryer/mixer) (mmcf)						

(c) Upon review of the permit and technical support documentation, the following additional revisions were required to correct inadvertent errors found in the emissions calculations. See page 11 of 13 of this ATSD for a summary table, and ATSD Appendix A for detailed calculations.

- (1) The maximum heat input rating of dryer, pages 1 and 2 of 15 of TSD Appendix A.1 and A.2, has been corrected from 128 MMBtu/hr to 125 MMBtu/hr. Additionally, the corresponding fuel usages for each of the fuels and resultant emissions have been updated.
- (2) The formula used to determine propane and butane usage for the two (2) hot oil heaters, page 5 of 15 of TSD Appendix A.1 and A.2, has been corrected.
- (3) The natural gas usage limitation for the dryer/mixer, page 2 of 15 of TSD Appendix A.2, has been corrected from 1,414 MMCF/yr to the corrected maximum possible usage of 1,095 MMCF/yr, as listed on page 1 of 15 of ATSD Appendix A.1.

No changes have been made to the permit as a result of the above-listed corrections.

No other changes have been made to the permit.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Ms. Hannah Desrosiers at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5374 or toll free at 1-800-451-6027 extension 4-5374.
- (b) A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of FESOP Renewal (tons/year)									
	PM	PM10 ¹	PM2.5	SO ₂ ²	NO _x ²	VOC	CO	**CO _{2e} ⁴	Total HAPs	Worst Single HAP
Ducted Emissions										
Fuel Combustion (worst case) ^a	24.00	19.13	19.13	99.0	99.0	5.78 7.18	45.99 59.40	73,975.82	11.42 11.70	9.90 (hydrogen chloride)
Dryer/Mixer (Process) ^b	144.67	64.13	80.62			16.00	65.00	16,626.00	5.33	1.55 (formaldehyde)
Dryer/Mixer Slag Processing ^z	0	0	0			0	0	0	0	n/a
Hot Oil Heaters Fuel Combustion ⁸	0.25	0.41	0.41			0.19 0.40	1.47	2,476.35	0.04	0.03 (hexane)
Crusher Fuel Combustion ⁸	5.13	5.13	5.13			5.96	15.73	22,547.83	0.06	0.02 (formaldehyde)
Worst Case Emissions	150.06	69.67	86.17	99.00	99.00	22.15 22.06	82.20	99,000	11.52 11.84	9.90 (HCL)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard ^c	0.55	0.55	0.55	0	0	8.57	1.44	0	0.14	0.04 (formaldehyde)
Material Storage Piles	13.03	4.56	4.56	0	0	0	0	0	0	0
Material Processing and Handling ^f	3.23	1.53	0.23	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying ^c	15.87	5.80	5.80	0	0	0	0	0	0	0
Paved and Unpaved Roads (worst case) ^a	66.26	16.89	16.89	0	0	0	0	0	0	0
Cold Mix Asphalt Production ⁹	0	0	0	0	0	48.90	0	0	12.76	4.40 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.74	0	0	0.19	0.07 (xylenes)
Volatile Organic Liquid Storage Vessels ⁷	0	0	0	0	0	negl.	0	0	negl.	negl.
Total Fugitive Emissions	98.94	29.33	12.83	0	0	58.20	1.44	0	13.09	4.47 (xylenes)
Total PTE of Entire Source	249.00	99.00	99.00	99.00	99.00	80.36 80.26	83.64	99,000	24.61 24.99	9.90 (hydrogen chloride)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

negl. = negligible

****The 100,000 CO_{2e} threshold represents the Title V and PSD subject to regulation thresholds for CO_{2e} in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.**

¹ Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

² The source will limit the combined SO₂ and NO_x emissions from the dryer/mixer burner, hot oil heaters, diesel fuel-fired portable crusher (combustion), and slag processing (SO₂ emissions only), such that the SO₂ and NO_x emissions do not exceed 99.0 tons per year, each.

³ The source will limit the combined VOC emissions from the dryer/mixer, hot oil heaters, diesel fuel-fired portable crusher (combustion), asphalt load-out, silo filling, on-site yard, cold mix asphalt production, and gasoline fuel transfer and dispensing, such that the VOC emissions do not exceed FESOP and PSD thresholds.

⁴ **The source will limit the combined CO_{2e} emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and dryer mixer process, such that the CO_{2e} emissions do not exceed 99,000 tons per year.**

^a Limited PTE based upon annual production, **annual fuel usage**, and fuel content limits to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP).

^b Limited PTE based upon annual production limit and lb/ton emission limits to comply with 326 IAC 2-2 (PSD), 326 IAC 2-8 (FESOP), and 326 IAC 8-1-6 (BACT).

footnotes continued on next page.....

^x Limited PTE based upon annual SO₂ and NO_x limits, as indicated above in note², to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP).
^β PM, PM₁₀, PM_{2.5}, CO, and HAPs emissions unlimited.
^δ Limited PTE based upon annual production limit to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP).
^φ Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP).
^γ Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible.

Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted)

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of FESOP Renewal (tons/year)									
	PM	PM ₁₀ ¹	PM _{2.5}	SO ₂ ²	NO _x ²	VOC	CO	**CO _{2e} ⁴	Total HAPs	Worst Single HAP
Ducted Emissions										
Fuel Combustion (worst case) ^α	24.00	19.13	19.13	99.0	99.0	5.78	45.99	73,975.82	11.42	9.90 (hydrogen chloride)
Dryer/Mixer (Process) ^β	144.67	64.13	80.62			16.00	65.00	16,626.00	5.33	1.55 (formaldehyde)
Dryer/Mixer Slag Processing ^z	0	0	0			0	0	0	0	n/a
Hot Oil Heaters Fuel Combustion ^δ	0.25	0.41	0.41			0.19	1.47	2,476.35	0.04	0.03 (hexane)
Crusher Fuel Combustion ^δ	5.13	5.13	5.13			5.96	15.73	22,547.83	0.06	0.02 (formaldehyde)
Worst Case Emissions	150.06	69.67	86.17	99.00	99.00	22.15	82.20	99,000	11.52	9.90 (HCL)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard ^c	0.55	0.55	0.55	0	0	8.57	1.44	0	0.14	0.04 (formaldehyde)
Material Storage Piles	13.03	4.56	4.56	0	0	0	0	0	0	0
Material Processing and Handling ^c	3.23	1.53	0.23	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying ^c	15.87	5.80	5.80	0	0	0	0	0	0	0
Paved and Unpaved Roads (worst case) ^α	66.26	16.89	16.89	0	0	0	0	0	0	0
Cold Mix Asphalt Production ^φ	0	0	0	0	0	48.90	0	0	12.76	4.40 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.74	0	0	0.19	0.07 (xylenes)
Volatile Organic Liquid Storage Vessels ^γ	0	0	0	0	0	negl.	0	0	negl.	negl.
Total Fugitive Emissions	98.94	29.33	12.83	0	0	58.20	1.44	0	13.09	4.47 (xylenes)
Total PTE of Entire Source	249.00	99.00	99.00	99.00	99.00	80.36	83.64	99,000	24.61	9.90 (hydrogen chloride)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
negl. = negligible										
**The 100,000 CO _{2e} threshold represents the Title V and PSD subject to regulation thresholds for CO _{2e} in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.										
¹ Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM ₁₀), not particulate matter (PM), is considered as a "regulated air pollutant".										

- ² The source will limit the combined SO₂ and NO_x emissions from the dryer/mixer burner, hot oil heaters, diesel fuel-fired portable crusher (combustion), and slag processing (SO₂ emissions only), such that the SO₂ and NO_x emissions do not exceed 99.0 tons per year, each.
- ³ The source will limit the combined VOC emissions from the dryer/mixer, hot oil heaters, diesel fuel-fired portable crusher (combustion), asphalt load-out, silo filling, on-site yard, cold mix asphalt production, and gasoline fuel transfer and dispensing, such that the VOC emissions do not exceed FESOP and PSD thresholds.
- ⁴ The source will limit the combined CO_{2e} emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and dryer mixer process, such that the CO_{2e} emissions do not exceed 99,000 tons per year.
- ^a Limited PTE based upon annual production, **annual fuel usage**, and fuel content limits to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP).
- ^b Limited PTE based upon annual production limit and lb/ton emission limits to comply with 326 IAC 2-2 (PSD), 326 IAC 2-8 (FESOP), and 326 IAC 8-1-6 (BACT).
- ^z Limited PTE based upon annual SO₂ and NO_x limits, as indicated above in note², to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP).
- ^δ PM, PM₁₀, PM_{2.5}, CO, and HAPs emissions unlimited.
- ^{*} Limited PTE based upon annual production limit to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP).
- ^h Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP).
- ^γ Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible.

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

2nd Addendum to the Technical Support Document (ATSD) for a
Federally Enforceable State Operating Permit Renewal

Source Background and Description

Source Name:	Rieth-Riley Construction Co., Inc.
Source Location:	2454 West CR 450 North, LaPorte, Indiana 46350
County:	LaPorte
SIC Code:	2951
Permit Renewal No.:	F091-29725-03179
Permit Reviewer:	Hannah L. Desrosiers

On July 23, 2011, the Office of Air Quality (OAQ) had a notice published in The LaPorte County Herald - Argus, LaPorte, Indiana, stating that Rieth-Riley Construction Co., Inc. had applied for a new source review and renewal of its operating permit, for their existing stationary drum hot-mix asphalt plant (#366) and cold-mix asphalt production operation. Rieth-Riley Construction Co., Inc. (Plant #366) applied to construct a new intermittent recycled asphalt pavement (RAP) crushing and asbestos-free shingle (factory seconds and/or post consumer waste) grinding operation, which will not increase the potential to emit air pollutants from the source. The notice also stated that the OAQ proposed to issue a FESOP Renewal for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

On July 21, 2011 and July 25, 2011, Mr. Edward Clements, Environmental Engineer for Rieth-Riley Construction Co., Inc., submitted comments to IDEM, OAQ on the draft FESOP Renewal.

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

Comment 1:

Condition D.1.12(f): Emission Factors – CO₂, page 37 of 60 of the permit, the emission factors are not correct. They are off by a factor of 1,000,000. Please correct this error.

Response to Comment 1:

IDEM agrees with the recommended changes, since the request corrects an inadvertent conversion error. Instead of $x10^3$, the significant figure should be $x10^{-3}$. The permit has been revised as follows:

D.1.12 Asphalt, Fuel, and Slag Limitations

(f) CO₂ equivalent emissions (CO_{2e}) shall be determined using the following equations:

Emission Factors - CO₂:

X_O (dryer/mixer/heater) = 22,501.41 x 10⁻³³ pounds per gallon of No. 2 fuel oil;

X_F (dryer/mixer) = 24,153.46 x 10⁻³³ pounds per gallon of No. 4 fuel oil;

X_P (dryer/mixer/heater) = 12,500.00 x 10⁻³³ pounds per gallon of propane;
 X_B (dryer/mixer/heater) = 14,506.73 x 10⁻³³ pounds per gallon of butane;
 X_D (crusher) = 22,472.92 x 10⁻³³ pounds per gallon of diesel fuel oil; and
 X_U (dryer/mixer) = 22,024.15 x 10⁻³³ pounds per gallon of waste oil;

Comment 2:

Condition D.1.12(e), page 36 of 60 of the permit, states in the formula that the emission factor for natural gas is 190 pounds per MMCF, but the emission factor for natural gas as listed below the formula is 140 pounds per MMCF. Additionally, the calculations use an emission factor of 190 pounds per MMCF for natural gas. Please correct this discrepancy.

Response to Comment 2:

IDEM agrees that the discrepancy needs to be corrected. The emission factor for natural gas is 190 pounds per MMCF. The permit has been revised as follows:

D.1.12 Asphalt, Fuel, and Slag Limitations

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

Emission Factors

Natural Gas (dryer/mixer) = ~~190~~**140** pounds per million cubic feet of natural gas;

Additional Changes

IDEM, OAQ has decided to make additional revisions to the permit, as described as follows:

(a) In keeping with the change requested in Comment 1, the emission factors for natural gas for Methane (CH₄) and Nitrogen Dioxide (N₂O) were inadvertently converted from pounds per MMCF to pounds per CF.

The permit has been revised as follows, with deleted language as ~~strikeouts~~ and new language **bolded**:

D.1.12 Asphalt, Fuel, and Slag Limitations

(f) CO₂ equivalent emissions (CO_{2e}) shall be determined using the following equations:

Emission Factors - CH₄:

X_G (dryer/mixer/heater) = ~~2.490~~**2.49** pounds per million cubic feet of natural gas;

Emission Factors - N₂O:

X_G (dryer/mixer/heater) = ~~2.200~~**2.20** pounds per million cubic feet of natural gas;

D.1.19 Record Keeping Requirements

(b) To document the compliance status with Conditions D.1.3(a), D.1.3(b), D.1.3(c), D.1.3(f), D.1.3(g), D.1.3(h), and D.1.6, the Permittee shall maintain records in accordance with (1) through (8) below. Records maintained for (1) through (8) below shall be taken monthly and

shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3(a), D.1.3(b), D.1.3(c), D.1.3(f), D.1.3(g), D.1.3(h), and D.1.6.

- (5) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide ~~and~~ nitrogen oxide **and CO2 equivalent (CO2e)** emission rates for each fuel used at the source since the last compliance determination period;

No other changes have been made to the permit.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Ms. Hannah Desrosiers at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5374 or toll free at 1-800-451-6027 extension 4-5374.
- (b) A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

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

Company Name: Rielth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

Maximum Capacity

Maximum Hourly Asphalt Production	=	400	ton/hr
Maximum Annual Asphalt Production	=	3,504,000	ton/yr
Maximum Fuel Input Rate	=	125	MMBtu/hr
Natural Gas Usage	=	1,095	MMCF/yr
No. 2 Fuel Oil Usage	=	7,821,429	gal/yr, and
No. 4 Fuel Oil Usage	=	7,821,429	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage	=	0	gal/yr, and
Propane Usage	=	11,967,213	gal/yr, and
Butane Usage	=	10,735,294	gal/yr, and
Used/Waste Oil Usage	=	7,821,429	gal/yr, and

	=	0.50	% sulfur
	=	0.50	% sulfur
	=	0	% sulfur
	=	0.20	gr/100 ft3 sulfur
	=	0.22	gr/100 ft3 sulfur
	=	1.00	% sulfur
	=	1.00	% ash
	=	0.400	% chlorine,
	=	0.010	% lead

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)								
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)	
PM	1.9	2.0	7.0	3.22	0.5	0.6	64	1.04	7.82	27.38	0	2.992	3.221	250.29	250.29	
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	51	4.16	12.91	32.46	0	2.992	3.221	199.45	199.45	
SO2	0.6	71.0	75.0	0	0.020	0.020	147.0	0.33	277.66	293.30	0	0.120	0.106	574.88	574.88	
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	104.03	93.86	183.80	0	77.79	80.51	74.30	183.80	
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.00	3.01	0.78	0.78	0	5.98	5.90	3.91	5.98	
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	45.99	19.55	19.55	0	44.88	45.09	19.55	45.99	
Hazardous Air Pollutant																
HCl							26.4								103.24	103.24
Antimony			5.25E-03	5.25E-03			negl			2.05E-02	0				negl	0.02
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	1.1E-04	2.19E-03	5.16E-03	0				4.30E-01	0.43
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	6.6E-06	1.64E-03	1.09E-04	0				negl	1.6E-03
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	6.0E-04	1.64E-03	1.56E-03	0				3.64E-02	0.04
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	7.7E-04	1.64E-03	3.30E-03	0				7.82E-02	0.08
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	4.6E-05		2.35E-02	0				8.21E-04	0.02
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			5.5E-01	2.7E-04	4.93E-03	5.91E-03	0				2.2E+00	2.15
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	2.1E-04	3.29E-03	1.17E-02	0				2.66E-01	0.27
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.4E-04	1.64E-03	4.42E-04	0				4.30E-02	1.6E-03
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	1.1E-03	1.64E-03	3.30E-01	0				4.30E-02	0.330
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.3E-05	8.21E-03	2.67E-03	0				negl	8.2E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						9.23E-04	0					9.2E-04
1,3-Butadiene																0.00
Acetaldehyde																0.00
Acrolein																0.00
Benzene	2.1E-03		2.14E-04	2.14E-04				1.1E-03		8.37E-04	0					0.00
Bis(2-ethylhexyl)phthalate							2.20E-03								8.60E-03	8.6E-03
Dichlorobenzene	1.2E-03						8.00E-07	6.6E-04							3.13E-06	6.6E-04
Ethylbenzene			6.36E-05	6.36E-05						2.49E-04	0					2.5E-04
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				4.1E-02	2.39E-01	1.29E-01	0					0.239
Hexane	1.8E+00							0.99								0.986
Phenol															9.39E-03	9.4E-03
Toluene	3.4E-03		6.20E-03	6.20E-03				1.9E-03		2.42E-02	0					0.02
Total PAH Haps	negl		1.13E-03	1.13E-03			3.91E-02	negl		4.42E-03	0				1.53E-01	0.15
Polycyclic Organic Matter		3.30E-03							1.29E-02							0.01
Xylene			1.09E-04	1.09E-04						4.26E-04	0					0.00
Total HAPs								1.03	0.28	0.57	0	0	0	106.42	108.03	

Methodology

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

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

Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]

Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]

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

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

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)

Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

Abbreviations

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

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

**ATSD Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/hr**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
 Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
 Permit Number: F091-29725-03179
 Reviewer: Hannah L. Desrosiers
 Date Submitted: 9/24/2010

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

Drum-mix Asphalt Plant Maximum Capacity

Maximum Hourly Asphalt Production =	400	ton/hr								
Maximum Annual Asphalt Production =	3,504,000	ton/yr								
Natural Gas Usage =	1,095	MMCF/yr								
No. 2 Fuel Oil Usage =	7,821,429	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage =	7,821,429	gal/yr, and	0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0.00	% sulfur						
Propane Usage =	11,967,213	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Usage =	10,735,294	gal/yr, and	0.22	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	7,821,429	gal/yr, and	1.00	% sulfur	1.00	% ash	0.400	% chlorine,	0.010	% lead

Unlimited/Uncontrolled Emissions

CO2e Fraction	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO2	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO ₂	1
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	21
N2O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N ₂ O	310

CO2e Fraction	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO2	65,788.61	87,996.59	94,457.30	0	74,795.08	77,867.01	86,130.17
CH4	1.37	3.57	3.78	0	3.60	3.59	3.49
N2O	1.20	1.02	0.76	0	5.39	4.83	0.70
Total	65,791.18	88,001.17	94,461.83	0	74,804.07	77,875.42	86,134.37

CO2e for Worst Case Fuel* (tons/yr)
94,770.73

No. 4 fuel oil

CO2e Equivalent Emissions (tons/yr)	66,190.67	88,386.76	94,770.73	0	76,540.14	79,439.88	86,421.72
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Methodology

Fuel Usage from TSD Appendix A.1, page 1 of 14.
 Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

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

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

- Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2
- No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- No.4 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- Residual (No. 5 or No. 6) Fuel Oil: Emission Factor for CO2 from 40 CFR Part 98 Subpart C, Table C-1, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CH4 and N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- Propane: Emission Factor for CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CO2 and N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
- Butane: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
- Waste Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu)] * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)
 Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu)] * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)

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

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

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

Note: No. 4 fuel oil is the "worst case" fuel

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

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

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO ₂	1
Methane	CH ₄	21
Nitrous oxide	N ₂ O	310

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)		
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil
CO ₂	33	33	33	57,816.00	57,816.00	57,816.00
CH ₄	0.012	0.012	0.012	21.02	21.02	21.02
N ₂ O				0	0	0
Total				57,837.02	57,837.02	57,837.02

CO ₂ e for Worst Case Fuel (tons/yr)
58,257.50

CO ₂ e Equivalent Emissions (tons/yr)	58,257.50	58,257.50	58,257.50

Methodology

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

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

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

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

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

Abbreviations

CO₂ = Carbon Dioxide

CH₄ = Methane

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

ATSD Appendix A.1: Unlimited Emissions Calculations
 Fuel Combustion with Maximum Capacity < 100 MMBtu/hr
 Hot Oil Heaters 14A & 14B

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
 Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
 Permit Number: F091-29725-03179
 Reviewer: Hannah L. Desrosiers
 Date Submitted: 9/24/2010

Maximum Hot Oil Heater Fuel Input Rate =	4.00	MMBtu/hr	(for 2 heaters @ 2.0 MMBtu.hr each)
Natural Gas Usage =	35	MMCF/yr	
No. 2 Fuel Oil Usage =	250,286	gal/yr, and	0.50 % sulfur
Propane Usage =	382,951	gal/yr, and	0.20 gr/100 ft3 sulfur
Butane Usage =	343,529	gal/yr,	0.22 gr/100 ft3 sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)				Unlimited/Uncontrolled Potential to Emit (tons/yr)				Worse Case Fuel (tons/yr)
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Propane lb/kgal	Butane lb/kgal	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	
PM	1.9	2.0	0.5	0.6	0.03	0.25	0.10	0.10	0.25
PM10/PM2.5	7.6	3.3	0.5	0.6	0.13	0.41	0.10	0.10	0.41
SO2	0.6	71.0	0.02	0.02	0.01	8.89	3.83E-03	3.40E-03	8.89
NOx	100	20.0	13.0	15.0	1.75	2.50	2.49	2.58	2.58
VOC	5.5	0.20	1.00	1.10	0.10	0.03	0.19	0.19	0.19
CO	84	5.0	7.5	8.4	1.47	0.63	1.44	1.44	1.47
Hazardous Air Pollutant									
Arsenic	2.0E-04	5.6E-04			3.5E-06	7.01E-05			7.0E-05
Beryllium	1.2E-05	4.2E-04			2.1E-07	5.26E-05			5.3E-05
Cadmium	1.1E-03	4.2E-04			1.9E-05	5.26E-05			5.3E-05
Chromium	1.4E-03	4.2E-04			2.5E-05	5.26E-05			5.3E-05
Cobalt	8.4E-05				1.5E-06				1.5E-06
Lead	5.0E-04	1.3E-03			8.8E-06	1.58E-04			1.6E-04
Manganese	3.8E-04	8.4E-04			6.7E-06	1.05E-04			1.1E-04
Mercury	2.6E-04	4.2E-04			4.6E-06	5.26E-05			5.3E-05
Nickel	2.1E-03	4.2E-04			3.7E-05	5.26E-05			5.3E-05
Selenium	2.4E-05	2.1E-03			4.2E-07	2.63E-04			2.6E-04
Benzene	2.1E-03				3.7E-05				3.7E-05
Dichlorobenzene	1.2E-03				2.1E-05				2.1E-05
Ethylbenzene									0
Formaldehyde	7.5E-02	6.10E-02			1.3E-03	7.63E-03			7.6E-03
Hexane	1.8E+00				0.03				0.03
Phenol									0
Toluene	3.4E-03				6.0E-05				6.0E-05
Total PAH Haps	negl				negl				0
Polycyclic Organic Matter		3.30E-03				4.13E-04			4.1E-04
Total HAPs =					3.3E-02	8.9E-03	0	0	0.041

Methodology

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

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

Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]

Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]

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

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

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM & PM2.5 = PM10)

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

SO2 = Sulfur Dioxide

NOx = Nitrous Oxides

VOC = Volatile Organic Compounds

CO = Carbon Monoxide

HAP = Hazardous Air Pollutant

HCl = Hydrogen Chloride

PAH = Polyaromatic Hydrocarbon

**ATSD Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr
Hot Oil Heaters 14A & 14B**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO ₂	1
Methane	CH ₄	21
Nitrous oxide	N ₂ O	310

Maximum Hot Oil Heater Fuel Input Rate = 4.00 MMBtu/hr (for 2 heaters @ 2.0 MMBtu.hr each)
Natural Gas Usage = 35 MMCF/yr
No. 2 Fuel Oil Usage = 250,286 gal/yr, 0.50 % sulfur
Propane Usage = 387,182 gal/yr, and 0.20 gr/100 ft3 sulfur
Butane Usage = 359,754 gal/yr, 0.22 gr/100 ft3 sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)				Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Propane lb/kgal	Butane lb/kgal	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)
CO2	120,161.84	22,501.41	12,500.00	14,506.73	2,105.24	2,815.89	2,419.89	2,609.42
CH4	2.49	0.91	0.60	0.67	0.04	0.11	0.12	0.12
N2O	2.2	0.26	0.90	0.90	0.04	0.03	0.17	0.16
Total					2,105.32	2,816.04	2,420.18	2,609.71

Worse Case CO2e Emissions (tons/yr)
2,828.38

No. 2 fuel oil

CO2e Equivalent Emissions (tons/yr)	2,118.10	2,828.38	2,476.35	2,662.13
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Methodology

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

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

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

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

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

No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

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

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

Emission Factor (EF) Conversions

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

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

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

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

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

Note: No. 2 fuel oil is the "worst case" fuel

Abbreviations

CO2 = Carbon Dioxide

CH4 = Methane

N2O = Nitrogen Dioxide

PTE = Potential to Emit

**ATSD Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO₂e) Emissions from the
Diesel Fuel-fired Portable Crusher
Reciprocating Internal Combustion Engines
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	540.0
Maximum Operating Hours per Year	8760
Potential Throughput (hp-hr/yr)	4,730,400
Diesel Engine Oil Usage ¹ =	241,699 gal/yr
Sulfur Content =	0.50 % sulfur

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO ₂	1
Methane	CH ₄	21
Nitrous oxide	N ₂ O	310

	Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	CO ₂	CH ₄	N ₂ O
Emission Factor in lb/kgal	22,472.92	0.91	0.18
Potential Emission in tons/yr	2,715.84	0.11	0.02
Summed Potential Emissions in tons/yr	2,715.98		
CO ₂ e Equivalent Emissions (tons/yr)	2,724.90		

Notes

Constant: 1 kilogallon (kgal) = 1000 gallons (gal)

The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.

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

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

Diesel Engine Oil: Emission Factor for CO₂ from AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1, has been converted from lb/MMBtu to lb/kgal. Emission Factors for CH₄ and N₂O from 40 CFR Part 98 Subpart C, Table C-2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversion

for CO₂: EF (lb/kgal) = [EF (lb/MMBtu) x average heating value of diesel (19,300 Btu/lb) x Conversion Factor (1/1,000,000 MMBtu/Btu) x density of diesel (7.1 lb/gal) x Conversion Factor (1,000 gal/kgal)]

for CH₄ & N₂O: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Methodology

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

Unlimited Potential Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]

Unlimited Potential to Emit (tons/yr) = [(Unlimited Potential Diesel Engine Oil Usage (gal/yr) * Emission Factor (lb/kgal)) / (1000 gal/kgal * 2,000 lb/ton)]

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

ATSD Appendix A.2: Limited Emissions Summary
Entire Source

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Asphalt Plant Limitations

Maximum Hourly Asphalt Production	400	ton/hr
Annual Asphalt Production Limitation	1,000,000	ton/yr
Blast Furnace Slag Content Limitation	1.50	% sulfur
Steel Slag Content Limitation	0.66	% sulfur
No. 2 Fuel Oil Limitation	0.50	% sulfur
No. 4 Fuel Oil Limitation	0.50	% sulfur
Residual (No. 5 or No. 6) Fuel Oil Limitation	0	% sulfur
Propane Limitation	0.20	gr/100 ft3 sulfur
Butane Limitation	0.22	gr/100 ft3 sulfur
Used/Waste Oil Limitation	1.00	% sulfur
Used/Waste Oil Limitation	1.00	% ash
Used/Waste Oil Limitation	0.40	% chlorine,
Used/Waste Oil Limitation	0.010	% lead
Diesel Fuel Oil Limitation	0.50	% sulfur
PM Dryer/Mixer Limitation	0.289	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation	0.128	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation	0.161	lb/ton of asphalt production
CO Dryer/Mixer Limitation	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation	0.032	lb/ton of asphalt production
Blast Furnace Slag SO2 Dryer/Mixer Limitation	0.740	lb/ton of slag processed
Steel Slag SO2 Dryer/Mixer Limitation	0.0014	lb/ton of slag processed
Cold Mix Asphalt VOC Usage Limitation	48.90	tons/yr
HCl Limitation	26.4	lb/kgal

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2 ²	NOx ²	VOC ³	CO	CO2e ⁴	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	24.00	19.13	19.13			5.98	45.99	79,439.88	11.42	9.90 (hydrogen chloride)
Dryer/Mixer (Process) ¹	144.67	64.13	80.62			16.00	65.00	16,626.00	5.33	1.55 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	99.00	99.00	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.25	0.41	0.41			0.19	1.47	2,828.38	0.041	0.032 (hexane)
Crusher Fuel Combustor	5.13	5.13	5.13			5.96	15.73	2,724.90	0.064	0.020 (formaldehyde)
Worst Case Emissions⁵	150.06	69.67	86.17	99.00	99.00	22.15	82.20	84,993.15	11.52	9.90 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.55	0.55	0.55	0	0	8.57	1.44	0	0.14	0.04 (formaldehyde)
Material Storage Piles	13.03	4.56	4.56	0	0	0	0	0	0	0
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	66.26	16.89	1.69	0	0	0	0	0	0	0
Cold Mix Asphalt Production ³	0	0	0	0	0	48.90	0	0	12.76	4.40 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.74	0	0	0.19	0.07 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	negl
Total Fugitive Emissions	98.94	29.33	12.83	0	0	58.20	1.44	0	13.09	4.47 (xylenes)
Totals Limited/Controlled Emissions	249.00	99.00	99.00	99.00	99.00	80.36	83.64	84,993.15	24.61	9.90 (hydrogen chloride)

negl = negligible

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

Fuel component percentages provided by the source.

¹ Based on the unlimited and limited potential to emit, the dryer/mixer process represents the worst case emissions of PM, PM10, PM2.5, VOC, and CO. Therefore, the source has elected to limit PM, PM10, PM2.5, and CO emissions to less than Title V and PSD applicability, and VOC emissions to less than and 326 IAC 8-1-6 (BACT) applicability, by accepting an asphalt production limit and lb/ton emission limits (see TSD for more detail).

² The source will limit the combined SO2 emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and slag processing and the combined NOx emissions from the dryer mixer burner, hot oil heaters, and diesel fuel-fired portable crusher, such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each. In addition, the source will limit the HCl emissions from the combustion of waste oil such that they do not exceed 9.9 tons per year. Compliance with these limits will be demonstrated using equations.

³ The source will limit the combined VOC emissions from the dryer/mixer, hot oil heaters, asphalt load-out, silo filling, on-site yard, cold mix asphalt production, and gasoline fuel transfer and dispensing, such that the VOC emissions do not exceed FESOP and PSD thresholds.

⁴ The source will limit the combined CO2e emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and dryer mixer process, such that the CO2e emissions do not exceed 99,000 tons per year. Compliance with these limits will be demonstrated using equations.

⁵ Worst Case PM, PM10, PM2.5, CO, and Total HAPs Emissions (tons/yr) = Worst Case Emissions from the Dryer/Mixer + Emissions from the Hot Oil Heater.

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
 Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
 Permit Number: F091-29725-03179
 Reviewer: Hannah L. Desrosiers
 Date Submitted: 9/24/2010

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

Production and Fuel Limitations

Maximum Hourly Asphalt Production	=	400	ton/hr
Annual Asphalt Production Limitation	=	1,000,000	ton/yr
Natural Gas Limitation	=	1,095	MMCF/yr
No. 2 Fuel Oil Limitation	=	2,788,732	gal/yr, and
No. 4 Fuel Oil Limitation	=	2,640,000	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Limitation	=	0	0 % sulfur
Propane Usage ¹	=	11,967,213	gal/yr, and
Butane Usage ¹	=	10,735,294	gal/yr, and
Used/Waste Oil Usage ²	=	750,000	gal/yr, and
		0.50	% sulfur
		0.50	% sulfur
		0	% sulfur
		0.20	gr/100 ft3 sulfur
		0.22	gr/100 ft3 sulfur
		1.00	% sulfur
		1.00	% ash
		0.400	% chlorine,
		0.010	% lead

Limited Emissions

Criteria Pollutant	Emission Factor (units)							Limited Potential to Emit (tons/yr)								
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)	
PM ^{2.5}	1.9	2	7	3.22	0.5	0.6	64	1.04	2.79	9.24	0	2.992	3.221	24.00	24.00	
PM10 ²	7.6	3.3	8.3	4.72	0.5	0.6	51	4.16	4.60	10.96	0	2.992	3.221	19.13	19.13	
SO ₂ ²	0.6	71.0	75.0	0.0	0.020	0.020	147.0	0.33	99.00	99.00	0	0.120	0.106	55.13	99.00	
NO _x ³	140	24.0	47.0	47.0	13.0	15.0	19.0	76.65	33.46	62.04	0	77.79	80.51	7.13	80.51	
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	3.01	0.28	0.26	0	5.98	5.90	0.38	5.98	
CO ²	84	5.0	5.0	5.0	7.5	8.4	5.0	45.99	6.97	6.60	0	44.88	45.09	1.88	45.99	
Hazardous Air Pollutant																
HCl ⁴							26.4							9.90	9.90	
Antimony			5.25E-03	5.25E-03			negl			6.93E-03	0			negl	6.9E-03	
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	1.1E-04	7.81E-04	1.74E-03	0			4.13E-02	4.1E-02	
Beryllium	1.2E-05	4.2E-04	2.79E-05	2.79E-05			negl	6.8E-06	5.86E-04	3.67E-05	0			negl	5.9E-04	
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	6.0E-04	5.86E-04	5.25E-04	0			3.49E-03	3.5E-03	
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	7.7E-04	5.86E-04	1.12E-03	0			7.50E-03	7.5E-03	
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	4.6E-05		7.95E-03	0			7.88E-05	7.9E-03	
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.7E-04	1.76E-03	1.99E-03	0			2.1E-01	0.21	
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	2.1E-04	1.17E-03	3.96E-03	0			2.65E-02	0.03	
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.4E-04	5.86E-04	1.49E-04	0				5.9E-04	
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	1.1E-03	5.86E-04	1.12E-01	0			4.13E-03	0.112	
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.3E-05	2.93E-03	9.02E-04	0			negl	2.9E-03	
1,1,1-Trichloroethane			2.36E-04	2.36E-04						3.12E-04	0				3.1E-04	
1,3-Butadiene															0	
Acetaldehyde															0	
Acrolein															0	
Benzene	2.1E-03		2.14E-04	2.14E-04				1.1E-03		2.82E-04	0				1.1E-03	
Bis(2-ethylhexyl)phthalate							2.2E-03							8.25E-04	8.3E-04	
Dichlorobenzene	1.2E-03						8.0E-07	6.6E-04						3.00E-07	6.6E-04	
Ethylbenzene			6.36E-05	6.36E-05						8.40E-05	0				8.4E-05	
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				4.1E-02	8.51E-02	4.36E-02	0				0.085	
Hexane	1.8E+00							9.86E-01							0.986	
Phenol							2.4E-03							9.00E-04	9.0E-04	
Toluene	3.4E-03		6.20E-03	6.20E-03				1.9E-03		8.18E-03	0				8.2E-03	
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		1.49E-03	0			1.47E-02	1.5E-02	
Polycyclic Organic Matter		3.30E-03							4.60E-03						4.6E-03	
Xylene			1.09E-04	1.09E-04						1.44E-04	0				1.4E-04	
								Total HAPs	1.03	0.10	0.19	0	0	0	10.20	11.42

Methodology

- In order to limit CO_{2e} emissions to less than 100,000 tons per year, the limited propane and butane fuel usage rates have been decreased.
 - Based on the unlimited potential to emit, the dryer/mixer process (page 3 of Appendix A.1) represents the worst case emissions of PM, PM10, PM2.5, and CO. Therefore, the source has elected to limit PM, PM10, PM2.5, and CO emissions to less than Title V and PSD applicability by accepting an asphalt production limit and a lb/ton emission limit (see page 3 of Appendix A.2 for more detail).
 - The source will limit the combined SO₂ emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and slag processing and the combined NO_x emissions from the dryer mixer burner, hot oil heaters, and diesel fuel-fired portable crusher, such that the SO₂ and NO_x emissions do not exceed 99.0 tons per year, each. Compliance with these limits will be demonstrated using equations.
 - Hydrogen Chloride emissions from waste oil combustion shall not exceed 9.90 tons per year. This would be equivalent to combusting 750,000 gallons of waste oil per year with a chlorine content of 0.4%. Compliance with this limit will be demonstrated using an equation.
- Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gal/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
 Sources of AP-42 Emission Factors for fuel combustion:
 Natural Gas - AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
 Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

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

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

**ATSD Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO2e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/hr**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

Production and Fuel Limitations

Maximum Hourly Asphalt Production =	400	ton/hr								
Annual Asphalt Production Limitation =	1,000,000	ton/yr								
Natural Gas Limitation =	1,095	MMCF/yr								
No. 2 Fuel Oil Limitation =	2,788,732	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Limitation =	2,640,000	gal/yr, and	0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0.00	% sulfur						
Propane Limitation =	11,967,213	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Limitation =	10,735,294	gal/yr, and	0.22	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	750,000	gal/yr, and	1.00	% sulfur	1.00	% ash	0.400	% chlorine,	0.010	% lead

Limited Emissions

CO2e Fraction	Emission Factor (units)								Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential	
CO2	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO ₂	1	
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	21	
N2O	2.20	0.26	0.19	0.53	0.90	0.90	0.18	Nitrous oxide	N ₂ O	310	

CO2e Fraction	Limited Potential to Emit (tons/yr)							
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	CO2e for Worst Case Fuel (tons/yr) *
CO2	65,788.61	31,375.21	31,882.57	0	74,795.08	77,867.01	8,259.06	79,439.88
CH4	1.37	1.27	1.27	0	3.60	3.59	0.33	
N2O	1.20	0.36	0.25	0	5.39	4.83	0.07	
Total	65,791.18	31,376.84	31,884.10	0	74,804.07	77,875.42	8,259.46	
CO2e Equivalent Emissions (tons/yr)	66,190.67	31,514.32	31,988.37	0	76,540.14	79,439.88	8,287.01	

Methodology

Fuel Limitations from TSD Appendix A.2, page 1 of 15.

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

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

- Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2
- No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- No.4 Fuel Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.
- Residual (No. 5 or No. 6) Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- Propane and Butane: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
- Waste Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions

Natural Gas: $EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]$
 Fuel Oils: $EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]$

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

All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)

Limited CO2e Emissions (tons/yr) = CO2 Potential Emission of "worst case" fuel (ton/yr) x CO2 GWP (1) + CH4 Potential Emission of "worst case" fuel (ton/yr) x CH4 GWP (21) + N2O Potential Emission of "worst case" fuel (ton/yr) x N2O GWP (310). Note: Butane is the "worst case" fuel

*The source will limit the combined CO2e emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and dryer mixer process, such that the CO2e emissions do not exceed 99,000 tons per year. Compliance with these limits will be demonstrated using equations.

Abbreviations

CH4 = Methane

CO2 = Carbon Dioxide

N2O = Nitrogen Dioxide

PTE = Potential to Emit

**ATSD Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
 Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
 Permit Number: F091-29725-03179
 Reviewer: Hannah L. Desrosiers
 Date Submitted: 9/24/2010

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

Maximum Hourly Asphalt Production =

400	ton/hr
-----	--------

 Annual Asphalt Production Limitation =

1,000,000	ton/yr
-----------	--------

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO ₂	1
Methane	CH ₄	21
Nitrous oxide	N ₂ O	310

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited Potential to Emit (tons/yr)			CO ₂ e for Worst Case Fuel (tons/yr) *
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO ₂	33	33	33	16,500.00	16,500.00	16,500.00	16,626.00
CH ₄	0.012	0.012	0.012	6.00	6.00	6.00	
N ₂ O				0	0	0	
Total				16,506.00	16,506.00	16,506.00	
CO₂e Equivalent Emissions (tons/yr)				16,626.00	16,626.00	16,626.00	

Methodology

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

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

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

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels. Limited CO₂e Emissions (tons/yr) = CO₂ Potential Emission of "worst case" fuel (ton/yr) x CO₂ GWP (1) + CH₄ Potential Emission of "worst case" fuel (ton/yr) x CH₄ GWP (21) + N₂O Potential Emission of "worst case" fuel (ton/yr) x N₂O GWP (310).

*The source will limit the combined CO₂e emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and dryer mixer process, such that the CO₂e emissions do not exceed 99,000 tons per year. Compliance with these limits will be demonstrated using equations.

Abbreviations

CO₂ = Carbon Dioxide

CH₄ = Methane

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

ATSD Appendix A.2: Limited Emissions Summary
 Fuel Combustion with Maximum Capacity < 100 MMBtu/hr
 Hot Oil Heaters 14A & 14B

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
 Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
 Permit Number: F091-29725-03179
 Reviewer: Hannah L. Desrosiers
 Date Submitted: 9/24/2010

Maximum Hot Oil Heater Fuel Input Rate =	4.00	MMBtu/hr	(for 2 heaters @ 2.0 MMBtu/hr each)
Natural Gas Usage =	35	MMCF/yr	
No. 2 Fuel Oil Usage =	250,286	gal/yr,	0.50 % sulfur
Propane Usage =	387,182	gal/yr, and	0.20 gr/100 ft3 sulfur
Butane Usage =	343,529	gal/yr,	0.22 gr/100 ft3 sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)				Unlimited/Uncontrolled Potential to Emit (tons/yr)				Worse Case Fuel (tons/yr)
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Propane lb/kgal	Butane lb/kgal	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	
PM	1.9	2.0	0.5	0.6	0.03	0.25	0.10	0.10	0.25
PM10/PM2.5	7.6	3.3	0.5	0.6	0.13	0.41	0.10	0.10	0.41
SO2*	0.6	71.0	0.02	0.02	0.01	8.89	3.87E-03	3.40E-03	8.89
NOx*	100	20.0	13.0	15.0	1.75	2.50	2.52	2.58	2.58
VOC	5.5	0.20	1.00	1.10	0.10	0.03	0.19	0.19	0.19
CO	84	5.0	7.5	8.4	1.47	0.63	1.45	1.44	1.47
Hazardous Air Pollutant									
Arsenic	2.0E-04	5.6E-04			3.5E-06	7.0E-05			7.0E-05
Beryllium	1.2E-05	4.2E-04			2.1E-07	5.3E-05			5.3E-05
Cadmium	1.1E-03	4.2E-04			1.9E-05	5.3E-05			5.3E-05
Chromium	1.4E-03	4.2E-04			2.5E-05	5.3E-05			5.3E-05
Cobalt	8.4E-05				1.5E-06				0.0
Lead	5.0E-04	1.3E-03			8.8E-06	1.6E-04			1.6E-04
Manganese	3.8E-04	8.4E-04			6.7E-06	1.1E-04			1.1E-04
Mercury	2.6E-04	4.2E-04			4.6E-06	5.3E-05			5.3E-05
Nickel	2.1E-03	4.2E-04			3.7E-05	5.3E-05			5.3E-05
Selenium	2.4E-05	2.1E-03			4.2E-07	2.6E-04			2.6E-04
Benzene	2.1E-03				3.7E-05				0.0
Dichlorobenzene	1.2E-03				2.1E-05				0.0
Ethylbenzene									0.0
Formaldehyde	7.5E-02	6.10E-02			1.3E-03	7.6E-03			7.6E-03
Hexane	1.8E+00				3.2E-02				0.0
Phenol									0.0
Toluene	3.4E-03				6.0E-05				0.0
Total PAH Haps	negl				negl				0.0
Polycyclic Organic Matter		3.30E-03				4.1E-04			4.1E-04
Total HAPs =					3.3E-02	8.9E-03	0	0	0.041

Methodology

*The source will limit the combined SO2 emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and slag processing and the combined NOx emissions from the dryer mixer burner, hot oil heaters, and diesel fuel-fired portable crusher, such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each. Compliance with these limits will be demonstrated using equations.

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

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

Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]

Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]

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

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

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM & PM2.5 = PM10)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 SO2 = Sulfur Dioxide

NOx = Nitrous Oxides
 VOC - Volatile Organic Compounds
 CO = Carbon Monoxide

HAP = Hazardous Air Pollutant
 HCl = Hydrogen Chloride
 PAH = Polyaromatic Hydrocarbon

**ATSD Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr
Hot Oil Heaters 14A & 14B**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO ₂	1
Methane	CH ₄	21
Nitrous oxide	N ₂ O	310

Maximum Hot Oil Heater Fuel Input Rate =	4.00	MMBtu/hr	(for 2 heaters @ 2.0 MMBtu.hr each)
Natural Gas Usage =	35	MMCF/yr	
No. 2 Fuel Oil Usage =	250,286	gal/yr,	0.50 % sulfur
Propane Usage =	387,182	gal/yr, and	0.20 gr/100 ft3 sulfur
Butane Usage =	343,529	gal/yr,	0.22 gr/100 ft3 sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)				Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Propane lb/kgal	Butane lb/kgal	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)
CO ₂	120,161.84	22,501.41	12,500.00	14,506.73	2,105.24	2,815.89	2,419.89	2,491.74
CH ₄	2.49	0.91	0.60	0.67	0.044	0.114	1.17E-01	1.15E-01
N ₂ O	2.20	0.26	0.90	0.90	0.039	0.033	1.74E-01	1.55E-01
Total					2,105.32	2,816.04	2,420.18	2,492.01

Worse Case CO₂e Emissions (tons/yr) *
2,828.38

No. 2 fuel oil

CO₂e Equivalent Emissions (tons/yr)	2,118.10	2,828.38	2,476.35	2,542.08
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Methodology

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

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

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

No. 2 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

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

Emission Factor (EF) Conversions

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

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

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

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

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

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

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

Note: No. 2 fuel oil is the "worst case" fuel

*The source will limit the combined CO₂e emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and dryer mixer process, such that the CO₂e emissions do not exceed 99,000 tons per year. Compliance with these limits will be demonstrated using equations.

Abbreviations

CH₄ = Methane

CO₂ = Carbon Dioxide

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

**ATSD Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from the
Diesel Fuel-fired Portable Crusher
Reciprocating Internal Combustion Engines
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	540.0
Maximum Operating Hours per Year	8760
Potential Throughput (hp-hr/yr)	4,730,400
Diesel Engine Oil Usage ¹ =	241,699 gal/yr
Sulfur Content =	0.50 % sulfur

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO ₂	1
Methane	CH ₄	21
Nitrous oxide	N ₂ O	310

	Limited Potential to Emit (tons/yr)		
	CO ₂	CH ₄	N ₂ O
Emission Factor in lb/kgal	22,472.92	0.91	0.18
Potential Emission in tons/yr	2,715.84	0.11	0.02
Summed Potential Emissions in tons/yr	2,715.98		
CO ₂ e Equivalent Emissions (tons/yr) *	2,724.90		

Notes

Constant: 1 kilogallon (kgal) = 1000 gallons (gal)

The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5

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

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

Diesel Engine Oil: Emission Factor for CO₂ from AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1, has been converted from lb/MMBtu to lb/kgal. Emission Factors for CH₄ and N₂O from 40 CFR Part 98 Subpart C, Table C-2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversion

for CO₂: EF (lb/kgal) = [EF (lb/MMBtu) x average heating value of diesel (19,300 Btu/lb) x Conversion Factor (1/1,000,000 MMBtu/Btu) x density of diesel (7.1 lb/gal) x Conversion Factor (1,000 gal/kgal)]

for CH₄ & N₂O: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

¹The diesel fuel usage rate was determined using the maximum fuel input rate for the crusher (see TSD Appendix A.1 for more details).

*The source will limit the combined CO₂e emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and dryer mixer process, such that the CO₂e emissions do not exceed 99,000 tons per year. Compliance with these limits will be demonstrated using equations.

Methodology

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

Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]

Limited Potential to Emit (tons/yr) = [Diesel Engine Oil Usage (gal/yr) * Emission Factor (lb/kgal)] / (1000 gal/kgal * 2,000 lb/ton) * Global Warming Potential

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

Indiana Department of Environmental Management
Office of Air Quality

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

Source Background, Description, and Location

Source Name:	Rieth-Riley Construction Co., Inc.
Source Location:	2454 West CR 450 North, LaPorte, Indiana 46350
County:	LaPorte
SIC Code:	2951
Permit Renewal No.:	F091-29725-03179
Permit Reviewer:	Hannah L. Desrosiers

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Rieth-Riley Construction Co., Inc. relating to the continued operation of their existing stationary drum hot-mix asphalt plant (#366), and cold-mix asphalt production operation.

History

On September 24, 2010, Rieth-Riley Asphalt Plant #366 (Rieth-Riley) submitted an application to the OAQ requesting to renew its operating permit for their existing stationary plant (#366). Rieth-Riley has indicated that the legal name of the company is Rieth-Riley Construction Company, Inc. Rieth-Riley has confirmed that they want the flexibility to process blast furnace slag, steel slag, and asbestos-free recycled shingles in their aggregate mix. Additionally, Rieth-Riley has requested the flexibility to crush recycled asphalt pavement (RAP) and to grind the asbestos-free recycled shingles on-site. Rieth-Riley Construction Co., Inc. was issued its first FESOP Renewal, No.: F091-21170-03179, on June 30, 2006, for Plant #366.

Permitted Emission Units and Pollution Control Equipment

The existing stationary source consists of the following permitted emission units:

- (a) One (1) counterflow drum hot-mix asphalt plant, identified as 2, constructed in 2001, capable of processing four hundred (400) tons of raw material per hour, processing blast furnace and/or steel slag and asbestos-free recycled shingles in the aggregate mix, equipped with one (1) one hundred twenty-eight (128) million British thermal units (MMBtu) per hour dryer burner outfitted with low NOX burners, identified as 3, firing waste oil, natural gas, No. 2 fuel oil, No. 4 fuel oil, propane gas or butane gas, controlling particulate emissions with one (1) baghouse, and exhausting to one (1) stack, identified as SV1.

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

- (b) Material handling, screening, conveying operations, uncontrolled, exhausting to the atmosphere, and including:
- (1) Aggregate storage piles consisting of sand, limestone, gravel, blast furnace and/or electric arc furnace steel mill slag, and asbestos-free recycled shingles (ground factory seconds and/or post consumer waste), as follows:
- (A) Sand storage piles, with a maximum anticipated pile size of three and thirty-four hundredths (3.34) acres;

- (B) Limestone storage piles, with a maximum anticipated pile size of nine and eighteen hundredths (9.18) acres;
 - (C) Gravel storage piles, with a maximum anticipated pile size of four and nine hundredths (4.09) acres; and
 - (D) Blast furnace and/or electric arc furnace steel mill slag storage piles, with a combined maximum anticipated pile size of six and ninety-four hundredths (6.94) acres; and
 - (E) Asbestos-free recycled shingle (ground factory seconds and/or post consumer waste) storage piles, with a combined maximum anticipated pile size of five and fifty-two hundredths (5.52) acres.
- (2) One (1) cold feed system, identified as 1, constructed in 2001, with a maximum capacity of three hundred seventy-two (372) tons of aggregate per hour, and consisting of:
 - (A) six (6) feeder bins;
 - (B) two (2) belt conveyors; and
 - (C) one (1) scalping screen.
 - (3) One (1) drag (slat) conveyor;
 - (4) One (1) mineral filler dust silo, identified as 15, constructed in 2001, with a maximum capacity of five hundred (500) barrels.
 - (5) Three (3) hot mix storage bins, identified as 5, constructed in 2001, with a maximum capacity of three hundred (300) tons, each.

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

- (c) One (1) recycled asphalt pavement (RAP) system, identified as 10, constructed in 2001, with a maximum throughput capacity of two hundred (200) tons of RAP per hour (the crusher capacity is fifty (50) tons per hour), uncontrolled, exhausting to the atmosphere, and including the following:
 - (1) One (1) recycled asphalt pavement (RAP) crusher;
 - (2) one (1) feeder bin;
 - (3) three (3) belt conveyors;
 - (4) one(1) scalping screen, and
 - (5) RAP storage piles, with a maximum anticipated pile size of three and sixty-nine hundredths (3.69) acres;

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, this is considered an affected facility.

- (d) Intermittent recycled asphalt pavement (RAP) crushing and asbestos-free recycled shingle (factory seconds and/or post consumer waste) grinding operations, approved for construction in

2011, with a maximum throughput capacity of one hundred (100) tons of material per hour, uncontrolled, exhausting to the atmosphere, including the following:

- (1) One (1) 540 Hp diesel fuel-fired crusher/grinder; and
- (2) RAP and/or asbestos-free recycled shingle storage piles, with a maximum anticipated pile size of one and six tenths (1.6) acre.

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, the intermittent recycled asphalt pavement (RAP) crushing operation is considered an affected facility.

- (e) One (1) cold-mix cutback asphalt production operation, constructed in 2001, uncontrolled, exhausting to the atmosphere, and including:
 - (1) cold-mix (stockpile mix) asphalt storage piles;

Emission Units and Pollution Control Equipment Constructed and/or Operated without a Permit

No unpermitted emission units were discovered operating at this existing source during this review process.

Emission Units and Pollution Control Equipment Removed From the Source

No emission units have been removed from this existing source during this review process.

Insignificant Activities

The existing stationary source also consists of the following insignificant activities:

- (a) One (1) liquid asphalt cement hot oil heating system, constructed in 2001, including two (2) hot oil heaters, identified as 14A and 14B, with a maximum heat input capacity of two (2.0) million British thermal units per hour, each, firing natural gas or No. 2 fuel oil, uncontrolled and exhausting to Stacks SV2 and SV3, respectively; [326 IAC 6-2]
- (b) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.

Under 40 CFR 63, Subpart CCCCCC: National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, the gasoline fuel transfer and dispensing operation is considered an affected facility.

- (c) 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.
- (d) Two (2) tanks, identified as 11A and 11B, storing waste oil, constructed in 2001, with a maximum capacity of 15,000 gallons each, and exhausting through Stacks SV6 and SV7;
- (e) One (1) tank, identified as 12, storing No. 2 fuel oil, constructed in 2001, with a maximum capacity 10,000 gallons, and exhausting through stack SV8;
- (f) Three (3) tanks, identified as 13A, 13B, and 13C, storing liquid asphalt. Tanks 13A and 13B were constructed in 2001, with a maximum capacity of 30,000 gallons each, and tank 13C was constructed in 2002 with a maximum capacity of 15,000 gallons, equipped with condenser vents and exhausting through Stacks SV4 and SV5;

- (g) The following VOC and HAP storage containers: vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (h) Refractory storage not requiring air pollution control equipment.
- (i) Cleaners and solvents characterized as follows:
 - (1) having a vapor pressure equal to or less than two (2) kiloPascals; fifteen (15) millimeters of mercury; or three tenths (0.3) pounds per square inch measured at sixty-eight degrees Celsius (38 °C) (one hundred degrees Fahrenheit (100 °F)) or;
 - (2) having a vapor pressure equal to or less than seven tenths (0.7) kiloPascals; five (5) millimeters of mercury; or one tenth (0.1) pounds per square inch measured at twenty degrees Celsius (20 °C) (sixty-eight degrees Fahrenheit (68 °F)); the use of which for all cleaners and solvents combined does not exceed one hundred forty five (145) gallons per twelve (12) months.
- (j) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (k) Unpaved roads and parking lots with public access [326 IAC 6-5].

Existing Approvals

The source was issued FESOP Renewal, No.: F091-21170-03179, on June 30, 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.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendices A.1 and A.2 of this TSD for detailed emission calculations.

County Attainment Status

The source is located in LaPorte County. The following attainment status designations are applicable to LaPorte County:

Pollutant	Designation
SO2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O3	Attainment effective July 19, 2007, for the 8-hour ozone standard. ¹
PM10	Unclassifiable effective November 15, 1990.
PM2.5	Unclassifiable or attainment effective April 5, 2005.
NO2	Cannot be classified or better than national standards.
Pb	Not designated.

¹Unclassifiable or attainment effective November 15, 1990, for the 1-hour standard which was revoked effective June 15, 2005.

- (a) Ozone Standards
 Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. LaPorte County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) PM2.5
 LaPorte County has been classified as attainment for PM2.5. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions. These rules became effective on July 15, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.
- (c) Other Criteria Pollutants
 LaPorte County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions, from the affected facility (facilities) to which the New Source Performance Standard is applicable, are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Unrestricted Potential Emissions

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

Pollutant	tons/year
PM	49,311.69
PM10 ⁽¹⁾	11,468.63
PM2.5	2,665.46
SO2	1,146.88
NOx	263.73
VOC	42,202.19
CO	250.01
Total HAPs ⁽²⁾	11,095.08
Maximum (Worst Case) HAP	3,789.90 (xylenes)

NOTES

- (1) Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.
- (2) HAPs include 2-butanone, 2-methylnaphthalene, acetaldehyde, benzene, ethylbenzene, formaldehyde, hexane, hydrogen chloride, naphthalene, phenanthrene, polycyclic organic matter, quinone, toluene, total PAH Haps, xylenes, and antimony, arsenic, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium, compounds.
- (3) Appendix A.1 of this TSD reflects the uncontrolled, unlimited, potential emissions of the source.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10, PM2.5, SO2, NOx, VOCs, and CO is equal to or greater than one hundred (100) tons per year. However, the Permittee has agreed to limit the source's PM10, PM2.5, SO2, NOx, VOCs, and CO emissions to less than Title V levels, therefore the Permittee will be issued a FESOP Renewal.
- (b) 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/or 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 Permittee has agreed to limit the source's single HAP emissions and total HAP emissions below Title V levels. Therefore, the Permittee will be issued a FESOP Renewal.

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.

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Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of FESOP Renewal (tons/year)								
	PM	PM10 ¹	PM2.5	SO2 ²	NOx ²	VOC	CO	Total HAPs	Worst Single HAP
Ducted Emissions									
Fuel Combustion (worst case) ^a	24.00	19.13	19.13	99.0	99.0	7.18	59.40	11.70	9.90 (hydrogen chloride)
Dryer/Mixer (Process) ^b	144.67	64.13	80.62			16.00	65.00	5.33	1.55 (formaldehyde)
Dryer/Mixer Slag Processing ^z	0	0	0			0	0	0	n/a
Hot Oil Heaters Fuel Combustion ^δ	0.25	0.41	0.41			0.10	1.47	0.04	0.03 (hexane)
Crusher Fuel Combustion ^δ	5.13	5.13	5.13			5.96	15.73	0.06	0.02 (formaldehyde)
Worst Case Emissions	150.06	69.67	86.17	99.00	99.00	22.06	82.20	11.81	9.90 (HCL)
Fugitive Emissions									
Asphalt Load-Out, Silo Filling, On-Site Yard ^e	0.55	0.55	0.55	0	0	8.57	1.44	0.14	0.04 (formaldehyde)
Material Storage Piles	13.03	4.56	4.56	0	0	0	0	0	0
Material Processing and Handling ^e	3.23	1.53	0.23	0	0	0	0	0	0
Material Crushing, Screening, and Conveying ^e	15.87	5.80	5.80	0	0	0	0	0	0
Paved and Unpaved Roads (worst case) ^a	66.26	16.89	16.89	0	0	0	0	0	0
Cold Mix Asphalt Production ^h	0	0	0	0	0	48.90	0	12.76	4.40 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.74	0	0.19	0.07 (xylenes)
Volatile Organic Liquid Storage Vessels ^γ	0	0	0	0	0	negl.	0	negl.	negl.
Total Fugitive Emissions	98.94	29.33	12.83	0	0	58.20	1.44	13.09	4.47 (xylenes)
Total PTE of Entire Source	249.00	99.00	99.00	99.00	99.00	80.26	83.64	24.90	9.90 (hydrogen chloride)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	NA	NA	NA	NA	NA	NA	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA	NA	NA
negl. = negligible ¹ Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". ² The source will limit the combined SO2 and NOx emissions from the dryer/mixer burner, hot oil heaters, diesel fuel-fired portable crusher (combustion), and slag processing (SO2 emissions only), such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each. ³ The source will limit the combined VOC emissions from the dryer/mixer, hot oil heaters, diesel fuel-fired portable crusher (combustion), asphalt load-out, silo filling, on-site yard, cold mix asphalt production, and gasoline fuel transfer and dispensing, such that the VOC emissions do not exceed FESOP and PSD thresholds. ^a Limited PTE based upon annual production and fuel content limits to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP). ^b Limited PTE based upon annual production limit and lb/ton emission limits to comply with 326 IAC 2-2 (PSD), 326 IAC 2-8 (FESOP), and 326 IAC 8-1-6 (BACT). ^z Limited PTE based upon annual SO2 and NOx limits, as indicated above in note ² , to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP). ^δ PM, PM10, PM2.5, CO, and HAPs emissions unlimited. ^e Limited PTE based upon annual production limit to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP). ^h Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP). ^γ Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible.									

(a) FESOP Status

This existing source is not a Title V major stationary source, because the potential to emit PM10, PM2.5, SO2, NOx, VOCs, and CO from the entire source will be limited to less than the Title V major source threshold levels. In addition, this existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the potential to emit HAPs will be limited to less than ten (10) tons per year for a single HAP and twenty-five (25) tons per year of total HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act and is subject to the provisions of 326 IAC 2-8 (FESOP).

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the source shall comply with the following:

- (1) Pursuant to 326 IAC 2-8-4, the PM10, PM2.5, VOC, and CO emissions from the dryer/mixer burner shall be limited as follows:
 - (A) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month. *This is an existing limit for this source.*
 - (B) PM10 emissions from the dryer/mixer shall not exceed one hundred twenty-eight thousandths (0.128) pounds of PM10 per ton of asphalt produced. *This is a change from the existing limit of one hundred eighty-five thousandths (0.185) pounds of PM10 per ton of asphalt produced.*
 - (C) PM2.5 emissions from the dryer/mixer shall not exceed one hundred sixty-one thousandths (0.161) pounds of PM2.5 per ton of asphalt produced. *This is a new limit for this source.*
 - (D) VOC emissions from the dryer/mixer shall not exceed thirty-two thousandths (0.032) pounds of VOC per ton of asphalt produced. *This is a new limit for this source.*
 - (E) CO emissions from the dryer/mixer shall not exceed one hundred thirty thousandths (0.130) pounds of CO per ton of asphalt produced. *This is a new limit for this source.*

Note: The following terms and conditions have been revised/added in this FESOP Renewal:

- (i) Previously compliance with the annual asphalt production limit was based on a three hundred sixty-five (365) day period, with compliance determined at the end of each day. With this renewal, the source has requested a change in the compliance determination period to one based on a twelve (12) month consecutive month period.
- (ii) A PM10 limit is not required to render the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable for the new portable crushing/grinding unit. The addition of this unit will not cause any change in the source's potential to emit because the source is already permitted to crush/grind up to 950,000 tons of material per year, based on the annual asphalt production limitation of 1,000,000 tons per twelve (12) consecutive month period, as demonstrated in Appendix A.2 Limited Emission Calculations, page 11 of 15, under the "Material Processing, Handling, Crushing, Screening, and Conveying" calculations.

- (iii) During this review, the emissions calculations were updated to reflect the source's most current "worst-case" operating conditions for all units, and includes emissions not previously counted. Additionally, since OAQ relies on the most up-to-date emission factors recommended by U.S. EPA, facility emissions have been characterized using the most recent version of U.S. EPA's AP-42. The updated emission factors affected emissions from the fuel combustion, dryer/mixer process, asphalt load-out, silo filling, on-site yard, and material storage piles).
- (α) PM10 emissions from the material processing and handling, material crushing, paved and unpaved roads, and the new crusher fuel combustion, not previously accounted for in FESOP #091-21170-03179 have been calculated. In order to ensure compliance with the one hundred (100) ton per year FESOP thresholds, and in order to render the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the existing pound per ton (lb/ton) PM10 emission limit has been reduced from one hundred eighty-five thousandths (0.185) pounds of PM10 per ton of asphalt produced to one hundred twenty-eight thousandths (0.128) pounds of PM10 per ton of asphalt produced. A control device is still necessary for the source to comply with this limit.
- (β) VOC and CO emissions from the drying/mixing process, not previously accounted for in FESOP #091-21170-03179 have been calculated. In order to ensure compliance with the one hundred (100) ton per year FESOP thresholds, and to render the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, new FESOP (lb/ton) limits for VOC and CO have been added to the permit;
- (iii) A new FESOP PM2.5 limit has been added to the permit for the dryer/mixer, because on May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, with an effective date for the rule of July 15, 2008. While Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements, the May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised. A control device is necessary for the source to comply with this limit.

Note: A PM2.5 limit is not required to render the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable for the new portable crushing/grinding unit. The addition of this unit will not cause any change in the source's potential to emit because the source is already permitted to crush/grind up to 950,000 tons of material per year, based on the annual asphalt production limitation of 1,000,000 tons per twelve (12) consecutive month period, as demonstrated in Appendix A.2 Limited Emission Calculations, page 11 of 15, under the "Material Processing, Handling, Crushing, Screening, and Conveying" calculations.

See Appendix A for the detailed calculations.

- (2) Pursuant to 326 IAC 2-8-4, the SO₂, NO_x, and HCl emissions from the dryer/mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and slag processing shall be limited as follows:

(A) Sulfur Content and Waste Oil Specifications

- (i) The thirty (30) day calendar month average sulfur content of the blast furnace slag shall not exceed one and five tenths (1.5) percent by weight, with compliance determined at the end of each month. *This is a new limit for this source.*
- (ii) SO₂ emissions from blast furnace slag used in the dryer/mixer shall not exceed five thousand four hundred thirteen ten-thousandths (0.5413) pounds of SO₂ per ton of blast furnace slag processed, when the thirty (30) day calendar month average sulfur content is less than or equal to one and eleven hundredths (1.11) percent by weight. *This is a new limit for this source.*
- (iii) SO₂ emissions from blast furnace slag used in the dryer/mixer shall not exceed seventy-four hundredths (0.74) pounds of SO₂ per ton of blast furnace slag processed, when the thirty (30) day calendar month average sulfur content is greater than one and eleven hundredths (1.11) percent by weight but less than or equal to one and five tenths (1.5) percent by weight. *This is a new limit for this source.*
- (iv) The thirty (30) day calendar month average sulfur content of the electric arc furnace steel mill slag shall not exceed sixty-six hundredths (0.66) percent by weight, with compliance determined at the end of each month. *This is a new limit for this source.*
- (v) SO₂ emissions from the electric arc furnace steel mill slag used in the dryer/mixer shall not exceed fourteen ten-thousandths (0.0014) pounds of SO₂ per ton of electric arc furnace steel mill slag processed. *This is a new limit for this source.*
- (vi) The sulfur content of the No. 2 fuel oil shall not exceed five tenths (0.5) percent by weight. *This is an existing limit for this source.*
- (vii) The sulfur content of the No. 4 fuel oil shall not exceed five tenths (0.5) percent by weight. *This is an existing limit for this source.*
- (viii) The sulfur content of the diesel fuel oil shall not exceed five tenths (0.5) percent by weight. *This is a new limit for this source.*
- (ix) The sulfur content of the waste oil shall not exceed one (1.0) percent by weight. *This is an existing limit for this source.*
- (x) The chlorine content of the waste oil shall not exceed four tenths (0.4) percent by weight. *This is a new limit for this source.*
- (xi) HCl emissions from the dryer/mixer shall not exceed two hundred sixty-four ten-thousandths (0.0264) pounds of HCl per gallon of waste oil burned (or 26.4 lbs/kgal). *This is a new limit for this source.*

Note: The following terms and conditions have been revised/added in this FESOP Renewal:

- (α) Recent testing performed on another asphalt plant facility, having similar operations, has shown that slag emits higher SO₂ emissions than were previously accounted for in standard asphalt plant emission calculations. Consequently, IDEM determined that the emission factors developed during that testing should be applied to emissions from slag use at all asphalt plants, and that permit requirements and conditions should be revised and/or added, as needed, to account for any additional SO₂ emissions generated by the addition of slag to the aggregate mix.

Rieth-Riley Construction Co., Inc. has requested the addition of slag to the permit to increase the operational flexibility of this plant (#366). Therefore, sulfur content limits and corresponding pound per ton (lb/ton) SO₂ emission limits, have been added to the permit to ensure compliance with the one hundred (100) ton per year FESOP threshold for SO₂, and in order to render the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

- (β) With this renewal, the source is adding a new diesel fuel oil-fired portable crushing unit. Therefore, to ensure compliance with the one hundred (100) ton per year FESOP SO₂ threshold and in order to render the requirements of 326 IAC 2-7 Title V (Part 70) not applicable, a sulfur content limit (five tenths (0.5) percent by weight) has been added to the permit.

- (γ) During this review, the emissions calculations were updated to reflect the source's most current "worst-case" operating conditions for all units, and includes emissions not previously counted. Additionally, since OAQ relies on the most up-to-date emission factors recommended by U.S. EPA, facility emissions have been characterized using the most recent version of U.S. EPA's AP-42.

- (II) New chlorine content and corresponding pound per ton (lb/ton) HCL emission limits for waste oil (a limiting factor for HAPs) has been added to the permit to ensure compliance with the ten (10) ton per year single HAP, and the twenty-five (25) ton per year combined HAP, thresholds and in order to render the requirements of 326 IAC 2-7 Title V (Part 70) not applicable;

See Appendix A for the detailed calculations.

- (B) SO₂ emissions from the dryer/mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and the blast furnace and electric arc furnace steel mill slag processing shall not exceed ninety-nine (99.00) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

This limit replaces the existing waste oil usage limit of less than 1,700,673 gallons per twelve (12) consecutive month period, where compliance was determined in terms of fuel equivalency.

Note: The following terms and conditions have been revised/added in this FESOP Renewal:

(α) The source has indicated that they would prefer compliance be demonstrated by equation, as specified in the compliance determination section of the permit.

(I) SO₂ emissions from the use of blast furnace slag will be determined using a two-tiered approach (i.e. different SO₂ emission factors will be used depending on the thirty (30) day calendar month average sulfur content of the blast furnace slag).

(II) In addition, there will be an equation that allows the source to take into account the actual sulfur content of the waste oil used.

(C) NO_x emissions from the dryer/mixer burner, hot oil heaters, and diesel fuel-fired portable crusher, shall not exceed ninety-nine (99.00) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

This limit replaces the existing propane usage limit of less than 10,258,000 gallons per twelve (12) consecutive month period, where compliance was determined in terms of fuel equivalency.

Note: The following terms and conditions have been revised/added in this FESOP Renewal:

The source has indicated that they would prefer compliance be demonstrated by equation, as specified in the compliance determination section of the permit.

(D) HCl emissions dryer/mixer burner shall not exceed nine and nine tenths (9.90) tons per twelve (12) consecutive month period with compliance determined at the end of each month. *This is a new limit for this source.*

Note: The following terms and conditions have been revised/added in this FESOP Renewal:

(α) A new FESOP limit for HCL has been added to the permit, to ensure compliance with the ten (10) ton per year single HAP, and the twenty-five (25) ton per year combined HAP, thresholds and in order to render the requirements of 326 IAC 2-7 Title V (Part 70) not applicable; and

(β) Compliance with the HCl emissions limit will be demonstrated by the use of an equation, as specified in the compliance determination section of the permit.

(3) Pursuant to 326 IAC 2-8-4, the Permittee shall only grind and process certified asbestos-free factory second and/or post consumer waste shingles as an additive in its aggregate mix. *This is a new limit for this source.*

Note: The following terms and conditions have been revised/added in this FESOP Renewal:

Rieth-Riley Construction Co., Inc. intends to grind and process shingles at this plant (#366), therefore, they will be required to purchase/use only supplier certified asbestos-free factory seconds and/or post consumer waste, since it is

the physical act of grinding that releases asbestos into the air. This requirement will ensure compliance with the ten (10) ton per year single HAP, and the twenty-five (25) ton per year combined HAP, thresholds and will render the requirements of 326 IAC 2-7 Title V (Part 70) not applicable;

(4) Pursuant to 326 IAC 2-8-4, the VOC emissions from cold mix asphalt production shall be limited as follows:

(A) VOC emissions from the sum of the binders shall not exceed forty-eight and ninety hundredths (48.90) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Note: The following terms and conditions have been revised/added in this FESOP Renewal:

(i) The most recent AP-42 emission factor has also been used to characterize VOC emissions from the cold-mix asphalt production and storage. The cold-mix VOC limit has been revised to accommodate this update.

(ii) Compliance with the cold-mix asphalt production VOC emissions limit will be demonstrated by the use of an equation, as specified in the compliance determination section of the permit.

(ii) HAP emissions from the cold-mix asphalt production and storage, not previously accounted for in FESOP 091-21170-03179, have been calculated. The revised cold-mix VOC limit is sufficient to limit the cold-mix asphalt production rate such that source wide potential to emit of any single HAP is limited to less than ten (10) tons per year, and any combination of HAPs is limited to less than twenty-five (25) tons per year; and therefore, rendering the requirements of 326 IAC 2-7 (Part 70) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

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

(i) Cut back asphalt rapid cure, containing a maximum of twenty-five and three tenths percent (25.3%) by weight of VOC solvent in the liquid binder and ninety-five percent (95.0%) by weight of VOC solvent evaporating.

(ii) Cut back asphalt medium cure, containing a maximum of twenty-eight and six tenths percent (28.6%) by weight of VOC solvent in the liquid binder and seventy percent (70.0%) by weight of VOC solvent evaporating.

(iii) Cut back asphalt slow cure, containing a maximum of twenty percent (20.0%) by weight of VOC solvent in the liquid binder and twenty-five percent (25.0%) by weight of VOC solvent evaporating.

(iv) Emulsified asphalt with solvent, containing a maximum of fifteen percent (15.0%) by weight of VOC solvent in the liquid binder and forty-six and four tenths percent (46.4%) by weight of VOC solvent evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as

determined by ASTM, must be seven percent (7%) or less of the total emulsion by volume.

- (v) Other asphalt with solvent binder, containing a maximum of twenty-five and nine tenths percent (25.9%) by weight of VOC solvent in the liquid binder and two and five tenths percent (2.5%) by weight of VOC solvent evaporating. This definition applies to any other asphalt with solvent binder that does not have distillation data available as determined by ASTM Method D-402, Distillation of Cutback Asphalt Products.
- (vi) Rieth-Riley other asphalt with solvent binder, cutback asphalt that has distillation data available as determined by ASTM Method D-402, Distillation of Cutback Asphalt Products.

Compliance with these limits, combined with the potential to emit PM₁₀, PM_{2.5}, SO₂, NO_x, VOC, CO, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of PM₁₀, PM_{2.5}, SO₂, NO_x, VOC, and CO to less than one hundred (100) tons per twelve (12) consecutive month period, each, any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

(b) PSD Minor Source

This existing source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit PM is still limited to less than two hundred fifty (250) tons per year and the potential to emit all other attainment regulated pollutants are limited to, or are less than, one hundred (100) tons per year. Additionally, this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

- (1) In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the source shall comply with the following:
 - (A) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month. *This is an existing limit for this source.*
 - (B) PM emissions from the dryer/mixer shall not exceed two hundred eighty-nine (0.289) pounds of PM per ton of asphalt produced. *This is a change from the existing limit of three hundred eighty-four thousandths (0.384) pounds of PM₁₀ per ton of asphalt produced.*

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

Note The following terms and conditions have been revised/added in this FESOP Renewal:

- (A) As noted above, the emissions calculations were updated to reflect the source's most current "worst-case" operating conditions for all units, and includes emissions not previously counted. Additionally, the most recent AP-42 emission factors have been used to characterize these emissions.

- (α) PM emissions from the material processing and handling, material crushing, paved and unpaved roads, and the new crusher fuel combustion, not previously accounted for in FESOP #091-21170-03179 have been calculated. In order to ensure compliance with the one hundred (100) ton per year FESOP thresholds, and to render the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the existing pound per ton (lb/ton) PM emission limit has been reduced from three hundred eighty-four thousandths (0.384) pounds of PM10 per ton of asphalt produced to two hundred eighty-nine (0.289) pounds of PM per ton of asphalt produced. A control device is still necessary for the source to comply with this limit.

See Appendix A for detailed calculations.

- (2) A PM limit is not required to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable for the new portable crushing/grinding unit. The addition of this unit will not cause any change in the source's potential to emit because the source is already permitted to crush/grind up to 950,000 tons of material per year, based on the annual asphalt production limitation of 1,000,000 tons per twelve (12) consecutive month period, as demonstrated in Appendix A.2 Limited Emission Calculations, page 11 of 15, under the "Material Processing, Handling, Crushing, Screening, and Conveying" calculations.

Federal Rule Applicability

New Source Performance Standards (NSPS)

(a) 40 CFR 60, Subpart I - Standards for Hot-mix Asphalt Facilities

The existing stationary drum hot-mix asphalt plant, approved for construction in 2001, is still subject to the New Source Performance Standard, 40 CFR 60, Subpart I (326 IAC 12), because it continues to meet the definition of a hot-mix asphalt facility pursuant to the rule and was constructed after June 11, 1973. This is an existing requirement for this source.

The units subject to this rule include the following:

- (1) Dryers
- (2) Systems for screening, handling, storing, and weighing hot aggregate
- (3) Systems for loading, transferring, and storing mineral filler
- (4) Systems for mixing hot mix asphalt
- (5) The loading, transfer, and storage systems associated with emission control systems

Therefore, pursuant to 40 CFR 60.92(a), particulate matter emissions from the above listed units, shall not exceed four hundredths (0.04) grains per dry standard cubic foot (gr/dscf), and visible emissions shall not exceed twenty percent (20%) opacity.

The source will continue to comply with this rule by using a baghouse to limit particulate matter emissions from the dryer/mixer to less than four hundredths (0.04) gr/dscf, and by applying the management techniques outlined in their Fugitive Dust Plan, included as Attachment A to the permit.

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

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

Note: this NSPS includes testing requirements applicable to this existing source.

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

(b) 40 CFR 60, Subpart Dc - Standards for Small Industrial/Commercial/Institutional Steam Generating Units

The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc (326 IAC 12), are not included in this renewal, because the two (2) hot oil heaters, with maximum rated heat input capacities of two (2.00) MMBtu/hr, each, still have a maximum design heat input capacity of less than the applicability threshold of ten (10) million British thermal units per hour.

(c) 40 CFR 60, Subpart Kb - Standards for Volatile Organic Liquid Storage Vessels

(1) The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels, 40 CFR 60, Subpart Kb (326 IAC 12), are not included in this renewal for existing storage tanks 13A and 13B, because although each tank was constructed after the rule applicability date of July 23, 1984 and has a maximum capacity greater than 75 m³ (19,813 gallons) but less than 151 m³ (39,890 gallons), the liquid stored in each tank still has a true maximum vapor pressure of less than fifteen kiloPascals (15.0 kPa).

(2) The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels, 40 CFR 60, Subpart Kb (326 IAC 12), are not included in this renewal for existing storage tanks 11A, 11B, 12, and 13C, each, because although each tank was constructed after the rule applicability date of July 23, 1984, each tank still has a maximum capacity of less than 75 m³ (19,813 gallons), and the liquid stored in each tank still has a maximum true vapor pressure of less than fifteen kiloPascals (15.0 kPa).

(d) 40 CFR 60, Subpart UU - Standards for Asphalt Processing and Asphalt Roofing Manufacture

The requirements of the New Source Performance Standard for Asphalt Processing and Asphalt Roofing Manufacture, 40 CFR 60, Subpart UU (2U) (326 IAC 12), are not included in this renewal, because the stationary drum hot-mix asphalt plant still does not meet the definition of an asphalt processing plant, since it does not blow asphalt, or an asphalt roofing plant since it does not produce asphalt roofing products, and finally pursuant to §60.101(a) the stationary drum hot-mix asphalt plant is still not a petroleum refinery since it is not engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives.

(e) 40 CFR 60, Subpart OOO - Standards for Nonmetallic Mineral Processing Plants

(1) The existing recycled asphalt pavement (RAP) system, identified as 10, and the new intermittent recycled asphalt pavement (RAP) crushing operation, are each subject to the New Source Performance Standard for Nonmetallic Mineral Processing Plants, 40 CFR 60, Subpart OOO (3O) (326 IAC 12), whenever these operations precede in the plant process any facility subject to the provisions of Subpart I, and are being used to reduce the size of nonmetallic minerals embedded in Recycled Asphalt Pavement (RAP), aggregate, and /or concrete. *This is a new requirement for this source.*

Units subject to this rule include the following:

- (A) crushers;

- (B) grinding mills; and
- (C) subsequent affected facilities up to, but not including, the first storage silo or bin, such as:
 - (i) bucket elevators;
 - (ii) belt conveyors;
 - (iii) screening operations; and
 - (iv) bagging operations;

The existing recycled asphalt pavement (RAP) system, identified as 10, and the new intermittent recycled asphalt pavement (RAP) crushing operation, are each subject to the following requirements of 40 CFR 60, Subpart OOO (included as Attachment C of the permit):

- | | |
|--------------------|------------------------|
| (A) 40 CFR 60.670; | (E) 40 CFR 60.674; |
| (B) 40 CFR 60.671; | (F) 40 CFR 60.675; and |
| (C) 40 CFR 60.672; | (G) 40 CFR 60.676. |
| (D) 40 CFR 60.673; | (H) Tables 1 & 3 |

Note: this NSPS includes testing requirements applicable to this existing source.

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the Recycled Asphalt Pavement (RAP) system and the intermittent recycled asphalt pavement (RAP) crushing operation except as otherwise specified in 40 CFR 60, Subpart OOO.

- (2) The requirements of the New Source Performance Standard for Nonmetallic Mineral Processing Plants, 40 CFR 60, Subpart OOO (30) (326 IAC 12), are not included in this renewal for the asbestos-free recycled shingle grinding operations. The shingle grinding operation does not meet the definition of a nonmetallic mineral processing plant, as defined in §60.671, because shingles are not comprised of a majority of nonmetallic minerals.
- (f) 40 CFR 60, Subpart UUU - Standards for Calciners and Dryers in Mineral Industries
The requirements of the New Source Performance Standard for Calciners and Dryers in Mineral Industries, 40 CFR 60, Subpart UUU (3U) (326 IAC 12), are not included in this renewal because the stationary drum hot-mix asphalt plant still does not meet the definition of a mineral processing plant, since it does not process or produce any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.
 - (g) 40 CFR 60, Subpart XX - Standards of Performance for Bulk Gasoline Terminals
The requirements of the New Source Performance Standard for Bulk Gasoline Terminals, 40 CFR 60, Subpart XX (2X) (326 IAC 12), are not included in this renewal because the gasoline fuel transfer and dispensing operation is still located at a stationary drum hot-mix asphalt plant, and not a bulk gasoline terminal, as defined in § 60.501.
 - (h) There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) included in this renewal.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(a) 40 CFR 63, Subpart DDDDD - NESHAPs for Industrial, Commercial, and Institutional Boilers and Process Heaters

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD (5D) (326 IAC 20), are not included in this renewal, as follows:

On June 8, 2007, the United States Court of Appeals for the District of Columbia Circuit (in *National Resource Defense Council, Sierra Club, Environmental Integrity Project vs. EPA*, No. 04-1385), vacated 40 CFR 63, Subpart DDDDD in its entirety. Additionally, since State Rule 326 IAC 20-95 incorporated the requirements of the NESHAP 40 CFR 63, Subpart DDDDD by reference, the requirements of 326 IAC 20-95 are no longer effective. However, since NESHAP 40 CFR Part 63, Subpart DDDDD has been vacated, Section 112(j) of the Clean Air Act, major sources of Hazardous Air Pollutants (HAPs), in specified source categories, requires a case-by-case MACT determination when EPA fails to promulgate a scheduled MACT Standard by the regulatory deadline. This existing stationary source is still considered an area source under Section 112 of the Clean Air Act, MACT Standards. Therefore, the source is not subject to a case-by-case MACT determination.

(b) 40 CFR 63, Subpart LLLLL - NESHAPs for Asphalt Processing and Asphalt Roofing Manufacturing

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart LLLLL (5L) (326 IAC 20-71), are not included in this renewal, because the stationary drum hot-mix asphalt plant still does not meet the definition of an asphalt processing plant or an asphalt roofing manufacturing facility, since it does not engage in the preparation of asphalt flux or asphalt roofing materials. Additionally, it is not a major source of HAPs, and is not located at nor is it a part of a major source of HAP emissions.

(c) 40 CFR 63, Subpart CCCCC - NESHAP for the Source Category Identified as Gasoline Dispensing Facilities (GDF)

This source is subject to the National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, 40 CFR 63, Subpart CCCCC (6C) (326 IAC 20), because the source has a gasoline fuel transfer and dispensing operation, capable of handling less than or equal to 1,300 gallons per day, with a total maximum storage capacity equal to or less than 10,500 gallons. *This is a new requirement for this source.*

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

- | | |
|------------------------------|--------------------------|
| (1) 40 CFR 63.11110; | (5) 40 CFR 63.11116; |
| (2) 40 CFR 63.11111(a), (b); | (6) 40 CFR 63.11130; |
| (3) 40 CFR 63.11112(a), (d); | (7) 40 CFR 63.11131; and |
| (4) 40 CFR 63.11113(b); | (8) 40 CFR 63.11132. |

Note: There are no testing requirements applicable to this existing source for this NESHAP.

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

- (d) 40 CFR 63, Subpart AAAAAAA - NESHAP for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing
The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart AAAAAAA (7A) (326 IAC 20), are not included in this renewal, because although the stationary drum hot-mix asphalt plant is an area source of hazardous air pollutant (HAP) emissions, as defined in §63.2, it does not meet the definition of an asphalt processing operation or an asphalt roofing manufacturing operation, as defined in §63.11566, since it does not engage in the preparation of asphalt flux or asphalt roofing materials.
- (e) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this renewal.

Compliance Assurance Monitoring (CAM)

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

State Rule Applicability - Entire Source

- (a) 326 IAC 1-6-3 (Preventive Maintenance Plan)
The source is still subject to 326 IAC 1-6-3.
- (b) 326 IAC 1-7 (Stack Height)
The requirements of 326 IAC 1-7 (Stack Height) are not included in this renewal because although the unlimited and uncontrolled PM10 and SO2 emissions from this existing source, are each greater than one hundred (100) tons per year, asphalt concrete plants are still specifically exempted under 326 IAC 1-7-5(c).
- (c) 326 IAC 2-1.1-5 (Nonattainment New Source Review)
LaPorte County has been classified as attainment or unclassifiable in Indiana for all criteria pollutants. Additionally, this existing source is not a major stationary source, under 326 IAC 2-1.1-5 (Nonattainment New Source Review), because the potential to emit particulate matter with a diameter less than two and five tenths (2.5) micrometers (PM2.5), is limited to less than one hundred (100) tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements still do not apply, and are not included in this renewal.
- (d) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
PSD applicability is discussed under the "Potential to Emit After Issuance" section above.
- (e) 326 IAC 2-3 (Emission Offset)
LaPorte County has been classified as attainment or unclassifiable in Indiana for all criteria pollutants. Additionally, this source is still not considered a major source because the potential emissions for all criteria pollutants are limited to less than the Title V Thresholds. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) still do not apply, and are not included in this renewal.
- (f) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit HAPs, from the existing hot-mix and cold-mix asphalt production operations, is still greater than ten (10) tons per year for any single HAP and greater than twenty-five (25) tons per year of a combination of HAPs. However, the source has agreed to continue to limit potential HAPs emissions from these facilities to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) still do not

apply, see the "Potential to Emit After Issuance" section above, and are not included in the in this renewal.

(g) 326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting) because it is located in LaPorte County and its emissions of VOC and NOx are each greater than twenty-five (25) tons per year. Therefore, pursuant to 326 IAC 2-6-3(a)(1), annual reporting is required. An emission statement shall be submitted by July 1, 2011, and every year thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

Additionally, pursuant to 326 IAC 2-6-1(b), all sources permitted by the department are subject to 326 IAC 2-6-5 which states that the department may request emissions and emission-related information about any regulated air pollutant as defined at 326 IAC 2-7-1(31) from any permitted source when needed for air quality planning, air quality modeling, or state implementation plan development.

(h) 326 IAC 2-8-4 (FESOP)

FESOP applicability is discussed under the "Potential to Emit After Issuance" section above.

(i) 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 continue to meet the following, unless otherwise stated in this permit:

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

(j) 326 IAC 6-4 (Fugitive Dust Emissions)

The source is still subject to the requirements of 326 IAC 6-4, because the asphalt load-out and on-site yard, material storage piles, material processing and handling, material crushing, screening, and conveying, and paved and unpaved roads, each, still have the potential to emit fugitive particulate emissions; therefore, this existing source continues to be subject to the requirements of 326 IAC 6-4. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the existing source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

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

The source continues to be subject to the requirements of 326 IAC 6-5, because the asphalt load-out and on-site yard, material storage piles, material processing and handling, material crushing, screening, and conveying, and paved and unpaved roads were constructed after December 13, 1985, and continue to have potential fugitive particulate emissions greater than twenty-five (25) tons per year. Therefore, pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall continue to be controlled according to the Fugitive Dust Control Plan, which is included as Attachment A to the permit.

(l) 326 IAC 12 (New Source Performance Standards)

See Federal Rule Applicability Section of this TSD.

(m) 326 IAC 20 (Hazardous Air Pollutants)

See Federal Rule Applicability Section of this TSD.

State Rule Applicability – Individual Facilities

Dryer/mixer

- (a) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
The existing dryer/mixer is still not a source of indirect heating, as defined in 326 IAC 1-2-19 “Combustion for indirect heating”. Therefore, the requirements of 326 IAC 6-2 still do not apply, and are not included in this renewal.
- (b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The existing dryer/mixer is still subject to 40 CFR 60, Subpart I (Standards of Performance for Hot Mix Asphalt Facilities) and incorporated by reference through 326 IAC 12. Therefore, pursuant to 326 IAC 6-3-1(c)(5), the existing dryer/mixer is still not subject to the requirements of 326 IAC 6-3 because it is subject to the more stringent particulate limit established in 326 IAC 12.
- (c) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)
The existing dryer/mixer burner is still subject to 326 IAC 7-1.1 because it has potential SO₂ emissions of greater than twenty-five (25) tons per year. Therefore, pursuant to 326 IAC 7.1-1(a), the sulfur dioxide emissions from the dryer/mixer burner shall continue to be limited to:
- (1) five-tenths (0.5) pounds per MMBtu for distillate oil combustion,
 - (2) one and six tenths (1.6) pounds per MMBtu for residual oil combustion.

Note: The No. 2 fuel oil and No. 4 fuel oils are each distillate oils, and the waste oil is a residual oil.

See Appendix A for the detailed calculations.

- (d) 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements)
Pursuant to 326 IAC 7-2-1(c), the source shall continue to submit reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate (pounds SO₂ per MMBtu), to the OAQ upon request.
- (e) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The unlimited potential VOC emissions from the existing dryer/mixer are greater than twenty-five (25) tons per year. However, the source has opted to limit the potential VOC emissions from the existing dryer/mixer to less than twenty-five (25) tons per year, therefore, rendering the requirements of 326 IAC 8-1-6 Best Available Control Technology (BACT) not applicable.

In order to render the requirements of 326 IAC 8-1-6 not applicable, the dryer/mixer shall be limited as follows:

- (1) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month. *This is an existing FESOP limit for this source.*
- (2) VOC emissions from the dryer/mixer shall not exceed thirty-two thousandths (0.032) pounds of VOC per ton of asphalt produced. *This is a new limit for this source.*

Compliance with these limits shall limit the potential VOC emissions from the existing dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 8-1-6 BACT not applicable.

Note: The following terms and conditions have been revised/added in this FESOP Renewal:

- (i) VOC emissions from the drying/mixing process, not previously accounted for in FESOP 091-21170-03179, have been calculated. In order to ensure compliance with the twenty five (25) tons/yr threshold, and in order to render the requirements of 326 IAC 8-1-6 BACT not applicable, a new (lb/ton) limit for VOC has been added to the permit;

See Appendix A for the detailed calculations.

- (f) 326 IAC 8-6-1 (Organic Solvent Emission Limitations)
The existing dryer/mixer is still subject to 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities). Therefore, the requirements of 326 IAC 8-6-1 (Organic Solvent Emission Limitations) still do not apply to the hot-mix asphalt production and are not included in this renewal.
- (g) There are no other 326 IAC 8 Rules that are applicable to the existing stationary drum hot-mix asphalt plant and/or the cold-mix asphalt production operation,
- (h) 326 IAC 9-1 (Carbon Monoxide Emission Limits)
The existing stationary drum hot-mix asphalt plant is still not one of the source types listed in 326 IAC 9-1-2. Therefore, the requirements of 326 IAC 9-1 are not included in this renewal.
- (i) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category)
The existing one hundred twenty-eight (128) MMBtu/hr dryer burner still does not meet the definition of an affected facility, as defined in 326 IAC 10-3-1(a), because it still has a maximum a heat input of less than two hundred fifty million (250,000,000) British thermal units per hour (MMBtu); therefore, it is still not subject to this rule and the requirements are not included in this renewal.

Hot Oil Heating System

- (a) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
The two (2) existing hot oil heaters, each having maximum rated heat input capacities of two (2.00) MMBtu/hr, are subject to 326 IAC 6-2-4 because they were constructed after the rule applicability date of September 21, 1983, and meet the definition of an indirect heating unit, as defined in 326 IAC 1-2-19, since they combust fuel to produce usable heat that is transferred through a heat-conducting materials barrier or by a heat storage medium to a material to be heated so that the material being heated is not contacted by, and adds no substance to the products of combustion.

Pursuant to 326 IAC 6-2-4(a), for a total source maximum operating capacity rating less than ten (10) MMBtu/hr, the pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input shall not exceed six tenths (0.6) pounds per MMBtu (lb/MMBtu).

Therefore, particulate emissions from the two (2) existing hot oil heaters, each, shall continue to not exceed six tenths (0.6) pounds per MMBtu heat input.

See Appendix A for the detailed calculations.

- (b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The two (2) existing hot oil heaters are each still not subject to the requirements of 326 IAC 6-3 because they are already otherwise subject to 326 IAC 6-2.
- (c) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)
The two (2) existing hot oil heaters still have potential SO₂ emissions of less than twenty-five (25) tons per year, each. Therefore, the requirements of 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations) still do not apply and are not included in this renewal.

See Appendix A for the detailed calculations.

- (d) 326 IAC 9-1 (Carbon Monoxide Emission Limits)
This two (2) existing hot oil heaters are each still not one of the source types listed in 326 IAC 9-1-2. Therefore, the requirements of 326 IAC 9-1 (Carbon Monoxide Emission Limits) still do not apply and are not included in this renewal.
- (e) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category)
The two (2) existing hot oil heaters still do not meet the definition of an affected facility, as defined in 326 IAC 10-3-1(a), because each heater still has a maximum a heat input of less than two hundred fifty million (250,000,000) British thermal units per hour (MMBtu). Therefore, the requirements of 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category) still do not apply and are not included in this renewal.

Diesel fired Crusher

- (a) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
The one (1) diesel-fired crusher is not a source of indirect heating, as defined in 326 IAC 1-2-19 "Combustion for indirect heating". Therefore, the requirements of 326 IAC 6-2 do not apply, and are not included in this renewal.
- (b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) applicability is discussed in the "Crushing/Grinding Operations" Section below.
- (c) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)
The unlimited potential SO₂ emissions from the one (1) diesel-fired crusher are less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations) do not apply and are not included in this renewal.

See Appendix A.3 for the detailed calculations.

- (d) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The unlimited VOC potential emissions from the one (1) diesel-fired portable crusher are less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 (General Reduction Requirements for New Facilities) do not apply and are not included in this renewal.
- (e) 326 IAC 9-1 (Carbon Monoxide Emission Limits)
The one (1) diesel-fired portable crusher is not one of the source types listed in 326 IAC 9-1-2. Therefore, the requirements of 326 IAC 9-1 (Carbon Monoxide Emission Limits) still do not apply and are not included in this renewal.
- (f) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category)
The one (1) diesel-fired portable crusher does not meet the definition of an affected facility, as defined in 326 IAC 10-3-1(a), because it has a maximum a heat input of less than two hundred fifty million (250,000,000) British thermal units per hour (MMBtu). Therefore, the requirements of 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category) do not apply and are not included in this renewal.

Crushing/Grinding Operations

- (a) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the recycled asphalt pavement (RAP) crushing operations and the new Intermittent asbestos-free recycled shingle (factory seconds and/or post consumer waste) grinding operations shall not exceed the corresponding pound per hour limitations listed in the table below:

Emission Unit	Process Weight Rate		Allowable Emission Rate (lb/hour)
	(lbs/hr)	(tons/hr)	
existing RAP Crushing	100,000	50	44.58
existing RAP Crushing system #10 - material handling, screening, and conveying	400,000	200	58.51
NEW intermittent RAP Crushing & Shingle Grinding	200,000	100	51.28
NEW intermittent RAP Crushing & Shingle Grinding - material handling, screening, and conveying	200,000	100	51.28

These limitations were calculated as follows:

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

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

Pursuant to 326 IAC 6-3-2(e)(3), when the process weight exceeds 200 tons per hour, the maximum allowable emission may exceed the emission limits shown in the table above, provided the concentration of particulate matter in the gas discharged to the atmosphere is less than 0.10 pounds per 1,000 pounds of gases.

The source shall use wet suppression at all times the crushers, screens, and conveyors are in operation in order to comply with this limit.

Cold-mix Asphalt Production Operation

- (a) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
 The existing cold-mix asphalt production operation, a continued source of potential VOC emissions greater than twenty-five (25) tons per year, is still subject to the requirements of 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving); therefore, the requirements of 326 IAC 8-1-6 BACT still do not apply to the cold-mix asphalt production and are not included in this renewal.

See Appendix A for the detailed calculations.

- (b) 326 IAC 8-5-2 (Asphalt paving rules)
 Any paving application made after January 1, 1980, is subject to the requirements of 326 IAC 8-5-2. Pursuant to this rule, no person shall cause or allow the use of cutback asphalt or asphalt emulsion containing more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:
 - (a) penetrating prime coating;
 - (b) stockpile storage; and
 - (c) application during the months of November, December, January, February and March.

- (c) 326 IAC 8-6-1 (Organic Solvent Emission Limitations)
 The existing cold-mix asphalt production operation, a continued source of potential VOC emissions greater than one hundred (100) tons per year, is still subject to the requirements of 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving). Additionally, this source elected to be a FESOP source and has limited their VOC emissions to less than one hundred (100) tons per

year. Therefore, the requirements of 326 IAC 8-6-1 (Organic Solvent Emission Limitations) still do not apply to the cold-mix asphalt production and are not included in this renewal.

See Appendix A for the detailed calculations.

- (d) There are no other 326 IAC 8 Rules that are applicable to the cold-mix asphalt production operation.

Gasoline Fuel Transfer and Dispensing Operation

- (a) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)

The potential to emit VOCs from the gasoline fuel transfer and dispensing operation is less than twenty-five (25) tons per year, therefore, the requirements of 326 IAC 8-1-6 still do not apply and are not included in the in this renewal.

See Appendix A for the detailed calculations.

- (b) 326 IAC 8-4-6 (Gasoline Dispensing Facilities)

This existing stationary source is located in LaPorte County, which is not one of the counties specifically listed in 326 IAC 8-4-1. Therefore, the requirements of 326 IAC 8-4-6 (Gasoline Dispensing Facilities) do not apply to the gasoline fuel transfer and dispensing operation and are not included in this renewal.

- (c) There are no other 326 IAC 8 Rules applicable to the existing gasoline fuel transfer and dispensing operation.

Storage Tanks

- (a) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)

The potential to emit VOCs from each of the existing liquid asphalt storage tanks, identified as 13A, 13B, and 13C, the No. 2 fuel oil storage tank, identified as 12, and the waste oil storage tanks, identified as 11A and 11B, is still less than twenty-five (25) tons per year, therefore, the requirements of 326 IAC 8-1-6 still do not apply and are not included in the in this renewal.

See Appendix A for the detailed calculations.

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

The existing liquid asphalt storage tanks, identified as 13A, 13B, and 13C, the No. 2 fuel oil storage tank, identified as 12, and the waste oil storage tanks, identified as 11A and 11B, each, continue to have a maximum storage capacity less than thirty-nine thousand (39,000) gallons. Therefore, are the requirements of 326 IAC 8-4-3 still do not apply to any these tanks and are not included in this renewal.

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

The existing liquid asphalt storage tanks, identified as 13A, 13B, and 13C, the No. 2 fuel oil storage tank, identified as 12, and the waste oil storage tanks, identified as 11A and 11B, are each not subject to the requirements of this rule because the source is located in LaPorte county, not Clark, Floyd, Lake, or Porter Counties.

- (d) There are no other 326 IAC 8 Rules that are applicable to the existing storage tanks.

Compliance Determination, Monitoring and Testing Requirements
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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.

(a) The compliance determination and testing requirements applicable to this existing source are as follows:

(1) The existing dryer/mixer continues to have applicable compliance determination and testing conditions as specified below:

Control Device	Pollutant	Timeframe for Testing	Frequency of Testing
Baghouse	PM	No later than five (5) yrs from the last valid test*	Once every five (5) years
Baghouse	PM10 and PM2.5	No later than five (5) yrs from the last valid test*	Once every five (5) years

* The last valid stack test occurred on May 22, 2006. The source was in compliance at that time.

(A) In order to comply with the PM, PM10, and PM2.5 limitations in the permit, the baghouse for the dryer/mixer, shall continue to be in operation and control emissions from the dryer/mixer at all times that the dryer/mixer is in operation.

(B) The annual hot-mix asphalt production rate will be used to verify compliance with the PSD PM emission limit, and the FESOP PM10, PM2.5, VOC, CO, and HAP emission limitations.

(C) The slag and fuel characteristics (i.e., sulfur content) and usage rates will be used to verify compliance with the FESOP SO2 emission limitations.

(D) The waste oil characteristics (i.e., chlorine content) and usage rates will be used to verify compliance with the FESOP HAP limitations.

(2) The shingle characteristics (i.e., lack of asbestos content) will be used to verify compliance with the FESOP HAP limitations.

(3) The liquid binder characteristics (i.e., evaporation temperature) and usage rate, in the production of cold-mix cutback asphalt, will be used to verify compliance with the FESOP VOC emission limitation.

(b) The compliance monitoring requirements applicable to this existing source are as follows:

(1) The existing dryer/mixer and baghouse stack exhaust continue to have applicable compliance monitoring conditions as follows:

Parameter	Frequency	Range	Excursions and Exceedances
Visible Emissions	Once per day	normal/abnormal	Response Steps
Pressure Drop	Once per day	2.0 to 8.0 inches	Response Steps
Bags in baghouse	As needed	normal/abnormal	Response Steps

These monitoring conditions are necessary because the baghouse used in conjunction with the dryer/mixer must operate properly to ensure continued compliance with 40 CFR 60, Subpart I, 326 IAC 2-8 (FESOP), and the limits that render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70 Permit Program) not applicable.

- (c) The RAP crushing, shingle grinding, and the material conveying, screening, and transfer points have applicable compliance monitoring conditions as follows:

Parameter	Frequency	Range	Excursions and Exceedances
Visible Emissions	Once per day	normal/abnormal	Response Steps

These monitoring conditions are necessary to ensure compliance with 40 CFR 60, Subpart I, 326 IAC 60, Subpart OOO, 326 IAC 2-8 (FESOP), 326 IAC 6-5, and the limits that render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70 Permit Program) not applicable.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on September 24, 2010.

The operation of this existing source shall be subject to the conditions of the attached proposed FESOP Renewal, No. F091-29725-03179. The staff recommends to the Commissioner that this FESOP Renewal be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Ms. Hannah Desrosiers at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5374 or toll free at 1-800-451-6027 extension 4-5374.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Asphalt Plant Maximum Capacity

Maximum Hourly Asphalt Production =	400	ton/hr								
Maximum Annual Asphalt Production =	3,504,000	ton/yr								
Maximum Annual Slag Usage =	1,471,680	ton/yr	1.50	% sulfur						
Maximum Dryer Fuel Input Rate =	128.0	MMBtu/hr								
Natural Gas Usage =	1,121	MMCF/yr								
No. 2 Fuel Oil Usage =	8,009,143	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage =	8,009,143	gal/yr, and	0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0	% sulfur						
Propane Usage =	12,389,834	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Usage =	11,512,115	gal/yr, and	0.22	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	8,009,143	gal/yr, and	1.00	% sulfur	1.00	% ash	0.400	% chlorine,	0.010	% lead
Diesel Fuel Oil Usage (crusher only) =	241,699	gal/yr.	0.50	% sulfur						
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production								
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production								
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production								
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production								
Unlimited CO Dryer/Mixer Emission Factor =	0.13	lb/ton of asphalt production								
Unlimited Slag SO2 Dryer/Mixer Emission Factor =	0.74	lb/ton of slag processed								

Unlimited/Uncontrolled Emissions

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants							Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP	
Ducted Emissions										
Dryer Fuel Combustion (worst case)	256.29	204.23	204.23	588.67	188.21	6.33	48.35	110.62	105.72	(hydrogen chloride)
Dryer/Mixer (Process)	49,056.00	11,388.00	2,628.00	101.62	96.36	56.06	227.76	18.68	5.43	(formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	544.52	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.25	0.41	0.41	8.89	2.50	0.10	1.47	0.04	0.03	(hexane)
Crusher Fuel Combustion	5.13	5.13	5.13	4.80	73.01	5.96	15.73	0.064	0.020	(formaldehyde)
Worst Case Emissions¹	49,061.38	11,393.55	2,633.55	1,146.88	263.73	62.12	244.96	110.72	105.72	(hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	1.94	1.94	1.94	0	0	30.01	5.05	0.50	0.16	(formaldehyde)
Material Storage Piles	13.03	4.56	4.56	0	0	0	0	0	0	
Material Processing and Handling	11.32	5.35	0.81	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	55.59	20.31	20.31	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	168.42	42.92	4.29	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	42,109.32	0	10,983.67	3,789.84	(xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.74	0	0.19	0.07	(xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	negl	0	
Total Fugitive Emissions	250.31	75.09	31.91	0	0	42,140.07	5.05	10,984.36	3,789.90	(xylenes)
Totals Unlimited/Uncontrolled PTE	49,311.69	11,468.63	2,665.46	1,146.88	263.73	42,202.19	250.01	11,095.08	3,789.90	(xylenes)

negl = negligible

Fuel component percentages provided by the source.

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

¹ Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

Maximum Capacity

Maximum Hourly Asphalt Production =	400	ton/hr
Maximum Annual Asphalt Production =	3,504,000	ton/yr
Maximum Fuel Input Rate =	128	MMBtu/hr
Natural Gas Usage =	1,121	MMCF/yr
No. 2 Fuel Oil Usage =	8,009.143	gal/yr, and
No. 4 Fuel Oil Usage =	8,009.143	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and
Propane Usage =	12,389.834	gal/yr, and
Butane Usage =	11,512.115	gal/yr, and
Used/Waste Oil Usage =	8,009.143	gal/yr, and
	0.50	% sulfur
	0.50	% sulfur
	0	% sulfur
	0.20	gr/100 ft3 sulfur
	0.22	gr/100 ft3 sulfur
	1.00	% sulfur
	1.00	% ash
	0.400	% chlorine,
	0.010	% lead

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							Worse Case Fuel (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)		
PM	1.9	2.0	7.0	3.22	0.5	0.6	54	1.07	8.01	28.03	0	3.097	3.454	256.29	256.29	
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	51	4.26	13.22	33.24	0	3.097	3.454	204.23	204.23	
SO2	0.6	71.0	75.0	0	0.020	0.020	147.0	0.34	284.32	300.34	0	0.124	0.114	589.67	589.67	
NOx	190	24.0	47.0	47.0	13.0	15.0	106.52	96.11	188.21	188.21	0	80.53	86.34	76.09	188.21	
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.00	3.08	0.80	0.80	0	6.19	6.33	4.00	6.33	
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	47.09376	20.02	20.02	0	46.46	48.35	20.02	48.35	
Hazardous Air Pollutant																
HCl															105.72	105.72
Antimony			5.25E-03	5.25E-03				negl		2.10E-02	0				negl	0.02
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03				1.1E-01	1.1E-04	2.24E-03	5.29E-03	0			4.41E-01	0.44
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05				negl	6.7E-06	1.68E-03	1.11E-04	0			negl	1.7E-03
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04				9.3E-03	6.2E-04	1.68E-03	1.59E-03	0			3.72E-02	0.04
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04				2.0E-02	7.8E-04	1.68E-03	3.38E-03	0			8.01E-02	0.08
Cobalt	8.4E-05		6.02E-03	6.02E-03				2.1E-04	4.7E-05		2.41E-02	0			8.41E-04	0.02
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03				5.5E-01	2.8E-04	5.05E-03	6.05E-03	0			2.2E+00	2.20
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03				6.8E-02	2.1E-04	3.36E-03	1.20E-02	0			2.72E-01	0.27
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.5E-04	1.68E-03	4.53E-04	0				4.41E-02	0.338
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02				1.1E-02	1.2E-03	1.68E-03	3.38E-01	0			negl	8.4E-03
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04				negl	1.3E-05	8.41E-03	2.74E-03	0			negl	9.5E-04
1,1,1-Trichloroethane			2.36E-04	2.36E-04						9.45E-04	0					0.00
1,3-Butadiene																0.00
Acetaldehyde																0.00
Acrolein																0.00
Benzene	2.1E-03		2.14E-04	2.14E-04					1.2E-03		8.57E-04	0				0.00
Bis(2-ethylhexyl)phthalate								2.20E-03	6.7E-04						8.81E-03	8.8E-03
Dichlorobenzene	1.2E-03							8.00E-07	6.7E-04						3.20E-06	6.7E-04
Ethylbenzene			6.36E-05	6.36E-05							2.55E-04	0				2.5E-04
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02					4.2E-02	2.44E-01	1.32E-01	0				0.244
Hexane	1.8E+00								1.01							1.009
Phenol								2.40E-03							9.61E-03	9.6E-03
Toluene	3.4E-03		6.20E-03	6.20E-03					1.9E-03		2.48E-02	0				0.02
Total PAH Haps	negl		1.13E-03	1.13E-03				3.91E-02	negl		4.53E-03	0			1.57E-01	0.16
Polycyclic Organic Matter		3.30E-03								1.32E-02						0.01
Xylene			1.09E-04	1.09E-04						4.36E-04	0					0.00
Total HAPs								1.06	0.28	0.58	0	0	0	108.97	110.62	

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0905 MMBtu]
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0974 MMBtu]
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
 Sources of AP-42 Emission Factors for fuel combustion:
 Natural Gas: AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
 Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

Abbreviations

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

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

**Appendix A.1: Unlimited Emissions Calculations
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

$$\begin{aligned} \text{Maximum Hourly Asphalt Production} &= \frac{400}{1} \text{ ton/hr} \\ \text{Maximum Annual Asphalt Production} &= \frac{3,504,000}{1} \text{ ton/yr} \end{aligned}$$

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	28	28	28	49,056	49,056	49,056	49,056
PM10*	6.5	6.5	6.5	11,388	11,388	11,388	11,388
PM2.5*	1.5	1.5	1.5	2,628	2,628	2,628	2,628
SO2**	0.0034	0.011	0.058	6.0	19.3	101.6	101.6
NOx**	0.026	0.055	0.055	45.6	96.4	96.4	96.4
VOC**	0.032	0.032	0.032	56.1	56.1	56.1	56.1
CO***	0.13	0.13	0.13	227.8	227.8	227.8	227.8
Hazardous Air Pollutant							
HCl			2.10E-04			3.68E-01	0.37
Antimony	1.80E-07	1.80E-07	1.80E-07	3.15E-04	3.15E-04	3.15E-04	3.15E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	9.81E-04	9.81E-04	9.81E-04	9.81E-04
Beryllium	negl	negl	negl	negl	negl	negl	0
Cadmium	4.10E-07	4.10E-07	4.10E-07	7.18E-04	7.18E-04	7.18E-04	7.18E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	9.64E-03	9.64E-03	9.64E-03	9.64E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	4.56E-05	4.56E-05	4.56E-05	4.56E-05
Lead	6.20E-07	1.50E-05	1.50E-05	1.09E-03	2.63E-02	2.63E-02	0.03
Manganese	7.70E-06	7.70E-06	7.70E-06	1.35E-02	1.35E-02	1.35E-02	0.01
Mercury	2.40E-07	2.60E-06	2.60E-06	4.20E-04	4.56E-03	4.56E-03	4.56E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	0.11	0.11	0.11	0.11
Selenium	3.50E-07	3.50E-07	3.50E-07	6.13E-04	6.13E-04	6.13E-04	6.13E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.07	0.07	0.07	0.07
Acetaldehyde			1.30E-03			2.28	2.28
Acrolein			2.60E-05			4.56E-02	0.05
Benzene	3.90E-04	3.90E-04	3.90E-04	0.68	0.68	0.68	0.68
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.42	0.42	0.42	0.42
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	5.43	5.43	5.43	5.43
Hexane	9.20E-04	9.20E-04	9.20E-04	1.61	1.61	1.61	1.61
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.08	0.08	0.08	0.08
MEK			2.00E-05			0.04	0.04
Propionaldehyde			1.30E-04			0.23	0.23
Quinone			1.60E-04			0.28	0.28
Toluene	1.50E-04	2.90E-03	2.90E-03	0.26	5.08	5.08	5.08
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.33	1.54	1.54	1.54
Xylene	2.00E-04	2.00E-04	2.00E-04	0.35	0.35	0.35	0.35
Total HAPs							18.68
Worst Single HAP							5.43 (formaldehyde)

Methodology

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

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

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

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

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

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

Abbreviations

VOC - Volatile Organic Compounds

SO2 = Sulfur Dioxide

PAH = Polyaromatic Hydrocarbon

HCl = Hydrogen Chloride

HAP = Hazardous Air Pollutant

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

The following calculations determine the unlimited SO₂ emissions from the processing of slag in the aggregate drying/mixing.

Maximum Annual Slag Usage* = ton/yr

Blast Furnace Slag SO₂ Content¹ = % sulfur

Steel Slag SO₂ Content² = % sulfur

Slag Type	Emission Factor or Limitation (lb/ton)*	Unlimited Potential to Emit SO ₂ (tons/yr)
Blast Furnace Slag	0.740	544.52
Steel Slag	0.0014	1.03

Methodology

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

¹ Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from blast furnace slag containing 1.10% sulfur content. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

² Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.

Unlimited Potential to Emit SO₂ from Slag (tons/yr) = [(Maximum Annual Slag Usage (ton/yr)] * [Emission Factor (lb/ton)] * [1 ton/2000 lbs]

Abbreviations

SO₂ = Sulfur Dioxide

**Appendix A.1: Unlimited Emissions Calculations
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr
Hot Oil Heaters 14A & 14B**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Maximum Hot Oil Heater Fuel Input Rate = 4.00 MMBtu/hr (for 2 heaters @ 2.0 MMBtu.hr each)
 Natural Gas Usage = 35 MMCF/yr
 No. 2 Fuel Oil Usage = 250,286 gal/yr, and 0.50 % sulfur
 Propane Usage = 3,206 gal/yr, and 0.20 gr/100 ft3 sulfur
 Butane Usage = 357 gal/yr, 0.22 gr/100 ft3 sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)				Unlimited/Uncontrolled Potential to Emit (tons/yr)				Worse Case Fuel (tons/yr)
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	
PM	1.9	2.0	0.5	0.6	0.03	0.25	8.02E-04	1.07E-04	0.25
PM10/PM2.5	7.6	3.3	0.5	0.6	0.13	0.41	8.02E-04	1.07E-04	0.41
SO2	0.6	71.0	0.02	0.02	0.01	8.89	3.21E-05	3.54E-06	8.89
NOx	100	20.0	13.0	15.0	1.75	2.50	0.02	2.68E-03	2.50
VOC	5.5	0.20	1.00	1.10	0.10	0.03	1.60E-03	1.97E-04	0.10
CO	84	5.0	7.5	8.4	1.47	0.63	0.01	1.50E-03	1.47
Hazardous Air Pollutant									
Arsenic	2.0E-04	5.6E-04			3.5E-06	7.01E-05			7.0E-05
Beryllium	1.2E-05	4.2E-04			2.1E-07	5.26E-05			5.3E-05
Cadmium	1.1E-03	4.2E-04			1.9E-05	5.26E-05			5.3E-05
Chromium	1.4E-03	4.2E-04			2.5E-05	5.26E-05			5.3E-05
Cobalt	8.4E-05				1.5E-06				1.5E-06
Lead	5.0E-04	1.3E-03			8.8E-06	1.58E-04			1.6E-04
Manganese	3.8E-04	8.4E-04			6.7E-06	1.05E-04			1.1E-04
Mercury	2.6E-04	4.2E-04			4.6E-06	5.26E-05			5.3E-05
Nickel	2.1E-03	4.2E-04			3.7E-05	5.26E-05			5.3E-05
Selenium	2.4E-05	2.1E-03			4.2E-07	2.63E-04			2.6E-04
Benzene	2.1E-03				3.7E-05				3.7E-05
Dichlorobenzene	1.2E-03				2.1E-05				2.1E-05
Ethylbenzene									0
Formaldehyde	7.5E-02	6.10E-02			1.3E-03	7.63E-03			7.6E-03
Hexane	1.8E+00				0.03				0.03
Phenol									0
Toluene	3.4E-03				6.0E-05				6.0E-05
Total PAH Haps	negl				negl				0
Polycyclic Organic Matter		3.30E-03				4.13E-04			4.1E-04
Total HAPs =					3.3E-02	8.9E-03	0	0	0.041

Methodology

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
 Sources of AP-42 Emission Factors for fuel combustion:
 Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM & PM2.5 = PM10)

Abbreviations

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

**Appendix A.1: Unlimited Emissions Calculations
Reciprocating Internal Combustion Engines
Diesel Fuel-fired Portable Crusher
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	540.0	Unlimited Potential Diesel Engine Oil Usage =	241,699	gal/yr
Maximum Operating Hours per Year	8760	Sulfur Content =	0.50	% sulfur
Unlimited Potential Throughput (hp-hr/yr)	4,730,400			

	Criteria Pollutants						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	42.47	42.47	42.47	39.73	604.17	49.32	130.15
Potential Emission in tons/yr	5.13	5.13	5.13	4.80	73.01	5.96	15.73

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

	Hazardous Air Pollutants (HAPs)							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/kgal****	1.28E-01	5.60E-02	3.90E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Potential Emission in tons/yr	1.54E-02	6.77E-03	4.72E-03	6.47E-04	1.95E-02	1.27E-02	1.53E-03	2.78E-03

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

****Emission factors in lb/MMBtu were converted to lb/kgal using the heating value of diesel fuel oil (137,000 Btu/gal) as taken from AP 42 Appendix A (09/85), page A-5.

Potential Emission of Total Combined HAPs (tons/yr)	0.064
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Notes

Constant: 1 kilogallon (kgal) = 1000 gallons (gal)

The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.

Emission Factors for Diesel Fuel Oil combustion are from AP 42 - 3.3 Gasoline and Diesel Industrial Engines (Supplement B 10/96), Tables 3.3-1 and 3.3-2

Methodology

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

Unlimited Potential Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]

Unlimited Potential to Emit (tons/yr) = [(Unlimited Potential Diesel Engine Oil Usage (gal/yr)) * Emission Factor (lb/kgal)] / (1000 gal/kgal * 2,000 lb/ton)

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

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

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.91	1.03	NA	1.94
Organic PM	3.4E-04	2.5E-04	NA	0.60	0.445	NA	1.04
TOC	0.004	0.012	0.001	7.29	21.35	1.927	30.6
CO	0.001	0.001	3.5E-04	2.36	2.067	0.617	5.05

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

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

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

Methodology

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Abbreviations

TOC = Total Organic Compounds

PM10 = Particulate Matter (<10 um)

VOC = Volatile Organic Compound

CO = Carbon Monoxide

PM2.5 = Particulate Matter (<2.5 um)

PM = Particulate Matter

HAP = Hazardous Air Pollutant

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)				
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total	
PAH HAPs											
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	1.6E-03	2.1E-03	NA	3.6E-03	
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	1.7E-04	6.2E-05	NA	2.3E-04	
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	4.2E-04	5.8E-04	NA	1.0E-03	
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	1.1E-04	2.5E-04	NA	3.6E-04	
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	4.5E-05	0	NA	4.5E-05	
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	1.3E-05	0	NA	1.3E-05	
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	1.1E-05	0	NA	1.1E-05	
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	1.4E-05	0	NA	1.4E-05	
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	4.7E-05	4.2E-05	NA	8.9E-05	
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	6.2E-04	9.3E-04	NA	1.5E-03	
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	2.2E-06	0	NA	2.2E-06	
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	3.0E-04	4.5E-03	NA	3.0E-04	
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	4.6E-03	4.5E-03	NA	9.1E-03	
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	2.8E-06	0	NA	2.8E-06	
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	1.4E-02	2.3E-02	NA	0.038	
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	7.5E-03	8.1E-03	NA	1.6E-02	
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	1.3E-04	1.3E-04	NA	2.6E-04	
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	4.8E-03	8.0E-03	NA	1.3E-02	
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	9.0E-04	2.0E-03	NA	2.9E-03	
Total PAH HAPs							0.035	0.050	NA	0.086	
Other semi-volatile HAPs											
Phenol		PM/HAP	---	Organic PM	1.18%	0	7.0E-03	0	0	7.0E-03	

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

Methodology

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

Abbreviations

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	6.85	21.35	1.81	30.01
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	4.7E-01	5.6E-02	1.3E-01	0.654
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	3.4E-03	1.2E-02	8.9E-04	0.016
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	5.2E-02	2.3E-01	1.4E-02	0.300
Total non-VOC/non-HAPS					7.30%	1.40%	0.532	0.299	0.141	0.97
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	3.8E-03	6.8E-03	1.0E-03	1.2E-02
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	7.0E-04	1.0E-03	1.9E-04	1.9E-03
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	3.6E-03	8.3E-03	9.4E-04	1.3E-02
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	9.5E-04	3.4E-03	2.5E-04	4.6E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	1.5E-05	8.5E-04	4.0E-06	8.7E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	1.1E-03	4.9E-03	2.9E-04	6.3E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	8.0E-03	0	2.1E-03	1.0E-02
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	2.0E-02	8.1E-03	5.4E-03	0.034
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	6.4E-03	1.5E-01	1.7E-03	0.155
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	1.1E-02	2.1E-02	2.9E-03	0.035
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	1.3E-04	6.6E-05	3.5E-05	2.3E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	5.8E-05	0	5.8E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	5.3E-04	1.2E-03	1.4E-04	1.8E-03
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	5.6E-04	0	1.5E-04	7.1E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	1.5E-02	1.3E-02	4.0E-03	0.033
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	9.5E-05	0	2.5E-05	1.2E-04
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	3.0E-02	4.3E-02	7.9E-03	0.080
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	5.8E-03	1.2E-02	1.5E-03	2.0E-02
Total volatile organic HAPs					1.50%	1.30%	0.109	0.278	0.029	0.416

Methodology

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

Abbreviations

TOC = Total Organic Compounds VOC = Volatile Organic Compound
 HAP = Hazardous Air Pollutant MTBE = Methyl tert butyl ether

Appendix A.1: Unlimited Emissions Calculations Material Storage Piles

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

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

where E_f = emission factor (lb/acre/day)
 s = silt content (wt %)
 p = 125.00 days of rain greater than or equal to 0.01 inches
 f = 15.00 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	3.34	1.834	0.642
Limestone	1.6	1.85	9.18	3.103	1.086
RAP	0.5	0.58	3.69	0.390	0.136
Gravel	1.6	1.85	4.09	1.382	0.484
Slag	3.8	4.40	6.94	5.571	1.950
Shingles	0.5	0.58	5.52	0.583	0.204
RAP/Shingles	0.5	0.58	1.60	0.169	0.059
Totals				13.03	4.56

Methodology

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

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

*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 11/06)

**Maximum anticipated pile size (tons) provided by the source. Pile size has been converted from tons to acres.

PM2.5 = PM10

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

RAP - recycled asphalt pavement

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

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

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

where: E_f = Emission factor (lb/ton)

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

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

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

Methodology

The percent asphalt cement/binder provided by the source.

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]

Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, asbestos-free shingles, and other additives

*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 11.19.2)

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	8.99	3.99
Screening	0.025	0.0087	41.61	14.48
Conveying	0.0030	0.00110	4.99	1.83
Unlimited Potential to Emit (tons/yr)			55.59	20.31

Methodology

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]

Unlimited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]

Raw materials may include stone/gravel, slag, recycled asphalt pavement (RAP), and asbestos-free shingles.

Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2

*Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).

**Assumes PM10 = PM2.5

Abbreviations

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

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Unpaved Roads at Industrial Site

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

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,328,800	tons/yr
Maximum Asphalt Cement/Binder Throughput =	175,200	tons/yr
Maximum No. 2 Fuel Oil Usage =	8,009,143	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	1.5E+05	5.9E+06	800	0.152	22,516.2
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	800	0.152	22,516.2
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	26.0	38.0	6.7E+03	2.6E+05	0	0.000	0.0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	6.7E+03	8.1E+04	0	0.000	0.0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	26.0	38.0	1.0E+03	4.0E+04	0	0.000	0.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.0E+03	1.2E+04	0	0.000	0.0
Aggregate/RAP Loader Full	Front-end loader (6 CY)	15.0	9.0	24.0	3.7E+05	8.9E+06	800	0.152	56,040.4
Aggregate/RAP Loader Empty	Front-end loader (6 CY)	15.0	0	15.0	3.7E+05	5.5E+06	800	0.152	56,040.4
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.5E+05	6.0E+06	0	0.000	0.0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	0	0.000	0.0
Total					1.3E+06	3.2E+07			1.6E+05

Average Vehicle Weight Per Trip =	23.6	tons/trip
Average Miles Per Trip =	0.117	miles/trip

Unmitigated Emission Factor, Ef = $k^*[(s/12)^a]^{(W/3)^b}$ (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	23.6	23.6	23.6	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = $E * [(365 - P)/365]$

Mitigated Emission Factor, Eext = $E * [(365 - P)/365]$

where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	6.52	1.66	0.17	lb/mile
Mitigated Emission Factor, Eext =	4.29	1.09	0.11	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	73.42	18.71	1.87	48.27	12.30	1.23	24.14	6.15	0.62
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	73.42	18.71	1.87	48.27	12.30	1.23	24.14	6.15	0.62
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0	0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0	0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0	0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0	0	0	0	0	0	0	0	0
Aggregate/RAP Loader Full	Front-end loader (6 CY)	182.73	46.57	4.66	120.15	30.62	3.06	60.07	15.31	1.53
Aggregate/RAP Loader Empty	Front-end loader (6 CY)	182.73	46.57	4.66	120.15	30.62	3.06	60.07	15.31	1.53
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0	0	0	0	0	0	0	0	0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0	0	0	0	0	0	0	0	0
Totals		512.29	130.56	13.06	336.85	85.85	8.58	168.42	42.92	4.29

Methodology

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

Abbreviations

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

Appendix A.1: Unlimited Emissions Calculations
Paved Roads

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Paved Roads at Industrial Site

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

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,328,800	tons/yr
Maximum Asphalt Cement/Binder Throughput =	175,200	tons/yr
Maximum No. 2 Fuel Oil Usage =	8,009,143	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	1.5E+05	5.9E+06	700	0.133	19,701.7
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	700	0.133	19,701.7
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	26.0	38.00	6.7E+03	2.6E+05	600	0.114	765.7
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	6.7E+03	8.1E+04	600	0.114	765.7
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	26.0	38.00	1.0E+03	4.0E+04	700	0.133	138.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.0E+03	1.2E+04	700	0.133	138.0
Aggregate/RAP Loader Full	Front-end loader (6 CY)	15.0	9.0	24.00	3.7E+05	8.9E+06	300	0.057	21,015.2
Aggregate/RAP Loader Empty	Front-end loader (6 CY)	15.0	0	15.00	3.7E+05	5.5E+06	300	0.057	21,015.2
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	1.5E+05	6.0E+06	700	0.133	19,356.1
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	700	0.133	19,356.1
Total					1.3E+06	3.2E+07			1.2E+05

Average Vehicle Weight Per Trip =	23.6	tons/trip
Average Miles Per Trip =	0.091	miles/trip

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

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	23.6	23.6	23.6	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

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

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f =$	0.173	0.035	0.0085	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.159	0.032	0.0078	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	1.71	0.34	0.08	1.56	0.31	0.08	0.78	0.16	0.04
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	1.71	0.34	0.08	1.56	0.31	0.08	0.78	0.16	0.04
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.066	0.013	3.3E-03	0.061	0.012	3.0E-03	0.030	6.1E-03	1.5E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.066	0.013	3.3E-03	0.061	0.012	3.0E-03	0.030	6.1E-03	1.5E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.2E-02	2.4E-03	5.9E-04	1.1E-02	2.2E-03	5.4E-04	5.5E-03	1.1E-03	2.7E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.2E-02	2.4E-03	5.9E-04	1.1E-02	2.2E-03	5.4E-04	5.5E-03	1.1E-03	2.7E-04
Aggregate/RAP Loader Full	Front-end loader (6 CY)	1.82	0.36	0.09	1.67	0.33	0.08	0.83	0.17	0.04
Aggregate/RAP Loader Empty	Front-end loader (6 CY)	1.82	0.36	0.09	1.67	0.33	0.08	0.83	0.17	0.04
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	1.68	0.34	0.08	1.53	0.31	0.08	0.77	0.15	0.04
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	1.68	0.34	0.08	1.53	0.31	0.08	0.77	0.15	0.04
Totals		10.57	2.11	0.52	9.67	1.93	0.47	4.83	0.97	0.24

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)
 PM2.5 = PM10

Abbreviations

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

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

Maximum Annual Asphalt Production = 3,504,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Asphalt Cement/Binder Throughput = 175,200 tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Usage (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	44,325.60	42,109.32
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	50,107.20	35,075.04
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	35,040.00	8,760.00
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	26,280.00	12,193.92
Other asphalt with solvent binder	25.9%	2.5%	45,376.80	1,134.42
Worst Case PTE of VOC =				42,109.32

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
PTE of Total HAPs (tons/yr) =	10,983.67	
PTE of Single HAP (tons/yr) =	3,789.84	Xylenes

Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents*

Volatile Organic HAP	CAS#	Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
		Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
Total Organic HAPs		26.08%	0.33%	1.29%	0.68%	0.19%
Worst Single HAP		9.00%	0.31%	0.50%	0.23%	0.07%
		Xylenes	Naphthalene	Xylenes	Xylenes	Chrysene

Methodology

Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]

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

PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [Maximum VOC Solvent Usage (tons/yr)]

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

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

*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tph.htm>

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Gasoline Fuel Transfer and Dispensing Operation**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

$$\begin{aligned} \text{Gasoline Throughput} &= 1,300 \text{ gallons/day} \\ &= 474.5 \text{ kgal/yr} \end{aligned}$$

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.07
Tank breathing and emptying	1.0	0.24
Vehicle refueling (displaced losses - controlled)	1.1	0.26
Spillage	0.7	0.17
Total		0.74

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
Limited PTE of Total HAPs (tons/yr) =	0.19
Limited PTE of Single HAP (tons/yr) =	0.07 Xylenes

Methodology

The gasoline throughput was provided by the source.

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

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

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

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

*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tph.htm>

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Entire Source

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Asphalt Plant Limitations

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	1,000,000	ton/yr
Blast Furnace Slag Content Limitation =	1.50	% sulfur
Steel Slag Content Limitation =	0.66	% sulfur
No. 2 Fuel Oil Limitation =	0.50	% sulfur
No. 4 Fuel Oil Limitation =	0.50	% sulfur
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	% sulfur
Propane Limitation =	0.20	gr/100 ft3 sulfur
Butane Limitation =	0.22	gr/100 ft3 sulfur
Used/Waste Oil Limitation =	1.00	% sulfur
Diesel Fuel Oil Limitation =	0.50	% sulfur
		1.00 % ash
		0.40 % chlorine,
		0.010 % lead
PM Dryer/Mixer Limitation =	0.289	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.128	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.161	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production
Blast Furnace Slag SO2 Dryer/Mixer Limitation =	0.740	lb/ton of slag processed
Steel Slag SO2 Dryer/Mixer Limitation =	0.0014	lb/ton of slag processed
Cold Mix Asphalt VOC Usage Limitation =	48.90	tons/yr
HCl Limitation =	26.4	lb/kgal

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2 ²	NOx ²	VOC ³	CO	Total HAPs	Worst Case HAP	
Ducted Emissions										
Dryer Fuel Combustion (worst case)	24.00	19.13	19.13	99.00	99.00	7.18	59.40	11.70	9.90	(hydrogen chloride)
Dryer/Mixer (Process) ¹	144.67	64.13	80.62			16.00	65.00	5.33	1.55	(formaldehyde)
Dryer/Mixer Slag Processing	0	0	0			0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.25	0.41	0.41			0.10	1.47	0.041	0.032	(hexane)
Crusher Fuel Combustion	5.13	5.13	5.13			5.96	15.73	0.064	0.020	(formaldehyde)
Worst Case Emissions⁴	150.06	69.67	86.17			99.00	99.00	22.06	82.20	11.81
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.55	0.55	0.55	0	0	8.57	1.44	0.14	0.04	(formaldehyde)
Material Storage Piles	13.03	4.56	4.56	0	0	0	0	0	0	
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	66.26	16.89	1.69	0	0	0	0	0	0	
Cold Mix Asphalt Production ³	0	0	0	0	0	48.90	0	12.76	4.40	(xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.74	0	0.19	0.07	(xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	negl	negl	
Total Fugitive Emissions	98.94	29.33	12.83	0	0	58.20	1.44	13.09	4.47	(xylenes)
Totals Limited/Controlled Emissions	249.00	99.00	99.00	99.00	99.00	80.26	83.64	24.90	9.90	(hydrogen chloride)

negl = negligible

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

Fuel component percentages provided by the source.

¹ Based on the unlimited and limited potential to emit, the dryer/mixer process represents the worst case emissions of PM, PM10, PM2.5, VOC, and CO. Therefore, the source has elected to limit PM, PM10, PM2.5, and CO emissions to less than Title V and PSD applicability, and VOC emissions to less than and 326 IAC 8-1-6 (BACT) applicability, by accepting an asphalt production limit and lb/ton emission limits (see TSD for more detail).

² The source will limit the combined SO2 emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and slag processing and the combined NOx emissions from the dryer mixer burner, hot oil heaters, and diesel fuel-fired portable crusher, such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each. In addition, the source will limit the HCl emissions from the combustion of waste oil such that they do not exceed 9.9 tons per year. Compliance with these limits will be demonstrated using equations.

³ The source will limit the combined VOC emissions from the dryer/mixer, hot oil heaters, asphalt load-out, silo filling, on-site yard, cold mix asphalt production, and gasoline fuel transfer and dispensing, such that the VOC emissions do not exceed FESOP and PSD thresholds.

⁴ Worst Case PM, PM10, PM2.5, CO, and Total HAPs Emissions (tons/yr) = Worst Case Emissions from the Dryer/Mixer + Emissions from the Hot Oil Heater.

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

Production and Fuel Limitations

Maximum Hourly Asphalt Production	=	400	ton/hr
Annual Asphalt Production Limitation	=	1,000,000	ton/yr
Natural Gas Limitation	=	1,414	MMCF/yr
No. 2 Fuel Oil Limitation	=	2,788,732	gal/yr, and
No. 4 Fuel Oil Limitation	=	2,640,000	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Limitation	=	0	% sulfur
Propane Usage ¹	=	14,360,656	gal/yr, and
Butane Usage ¹	=	12,882,353	gal/yr, and
Used/Waste Oil Usage ²	=	750,000	gal/yr, and
		0.50	% sulfur
		0.50	% sulfur
		0	% sulfur
		0.20	gr/100 H3 sulfur
		0.22	gr/100 H3 sulfur
		1.00	% sulfur
		1.00	% ash
		0.400	% chlorine
		0.010	% lead

Limited Emissions

Criteria Pollutant	Emission Factor (units)										Limited Potential to Emit (tons/yr)					Worse Case Fuel (tons/yr)
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil ³ (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)		
PM ^{2.5}	1.9	2	7	3.22	0.5	0.6	64	1.34	2.79	9.24	0	3.590	3.865	24.00	24.00	
PM10 ⁴	7.6	3.3	8.3	4.72	0.5	0.6	51	5.37	4.60	10.96	0	3.590	3.865	19.13	19.13	
SO2 ²	0.6	71.0	75.0	0.0	0.020	0.020	147.0	0.42	99.00	99.00	0	0.144	0.128	55.13	99.00	
NOx ³	140	24.0	47.0	47.0	13.0	15.0	19.0	99.00	33.46	62.04	0	93.34	96.62	7.13	99.00	
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	3.89	0.28	0.26	0	7.18	7.09	0.38	7.18	
CO ²	84	5.0	5.0	5.0	7.5	8.4	5.0	59.40	6.97	6.60	0	53.85	54.11	1.88	59.40	
Hazardous Air Pollutant																
HCl ⁴							26.4							9.90	9.90	
Antimony			5.25E-03	5.25E-03			negl			6.93E-03	0			negl	6.9E-03	
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	1.4E-04	7.81E-04	1.74E-03	0			4.13E-02	4.1E-02	
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	8.5E-06	5.86E-04	3.67E-05	0			negl	5.9E-04	
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	7.8E-04	5.86E-04	5.25E-04	0			3.49E-03	3.5E-03	
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	9.9E-04	5.86E-04	1.12E-03	0			7.50E-03	7.5E-03	
Cobalt	8.4E-05	6.02E-03	6.02E-03	6.02E-03			2.1E-04	5.9E-05	7.95E-03	0				7.88E-05	7.9E-03	
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	3.5E-04	1.76E-03	1.99E-03	0			2.1E-01	0.21	
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	2.7E-04	1.17E-03	3.96E-03	0			2.55E-02	0.03	
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04			1.8E-04	5.86E-04	1.49E-04	0				5.9E-04	5.9E-04	
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	1.5E-03	5.86E-04	1.12E-01	0			4.13E-03	0.112	
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.7E-05	2.93E-03	9.02E-04	0			negl	2.9E-03	
1,1,1-Trichloroethane			2.36E-04	2.36E-04						3.12E-04	0				3.1E-04	
1,3-Butadiene															0.0E+00	
Acetaldehyde															0.0E+00	
Acrolein															0.0E+00	
Benzene	2.1E-03		2.14E-04	2.14E-04				1.5E-03		2.82E-04	0				1.5E-03	
Bis(2-ethylhexyl)phthalate							2.2E-03							8.25E-04	8.3E-04	
Dichlorobenzene	1.2E-03						8.0E-07	8.5E-04						3.00E-07	8.5E-04	
Ethylbenzene			6.36E-05	6.36E-05						8.40E-05	0				8.4E-05	
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				5.3E-02	8.51E-02	4.36E-02	0				0.085	
Hexane	1.8E+00						1.27								1.273	
Phenol							2.4E-03							9.00E-04	9.0E-04	
Toluene	3.4E-03		6.20E-03	6.20E-03				2.4E-03		8.18E-03	0				8.2E-03	
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		1.49E-03	0			1.47E-02	1.5E-02	
Polycyclic Organic Matter		3.30E-03							4.60E-03		0				4.6E-03	
Xylene			1.09E-04	1.09E-04						1.44E-04	0				1.4E-04	
Total HAPs																
1.33 0.10 0.19 0 0 0 10.20 11.70																

Methodology

- The propane and butane fuel usage rates were determined using the maximum fuel input rate for the dryer (see Appendix A.1 for more details).
 - Based on the unlimited potential to emit, the dryer/mixer process (page 3 of Appendix A.1) represents the worst case emissions of PM, PM10, PM2.5, and CO. Therefore, the source has elected to limit PM, PM10, PM2.5, and CO emissions to less than Title V and PSD applicability by accepting an asphalt production limit and a lb/ton emission limit (see page 3 of Appendix A.2 for more detail).
 - The source will limit the combined SO2 emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and slag processing and the combined NOx emissions from the dryer mixer burner, hot oil heaters, and diesel fuel-fired portable crusher, such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each. Compliance with these limits will be demonstrated using equations.
 - Hydrogen Chloride emissions from waste oil combustion shall not exceed 9.90 tons per year. This would be equivalent to combusting 750,000 gallons of waste oil per year with a chlorine content of 0.4%. Compliance with this limit will be demonstrated using an equation.
- Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
 Sources of AP-42 Emission Factors for fuel combustion:
 Natural Gas - AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
 Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

Abbreviations
 PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 SO2 = Sulfur Dioxide
 NOx = Nitrogen Oxides
 VOC = Volatile Organic Compounds
 CO = Carbon Monoxide
 HAP = Hazardous Air Pollutant
 HCl = Hydrogen Chloride
 PAH = Polycyclic Aromatic Hydrocarbon

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

**Appendix A.2: Limited Emissions Summary
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

Maximum Hourly Asphalt Production	=	400	ton/hr
Annual Asphalt Production Limitation	=	1,000,000	ton/yr
PM Dryer/Mixer Limitation	=	0.289	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation	=	0.128	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation	=	0.161	lb/ton of asphalt production
CO Dryer/Mixer Limitation	=	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation	=	0.032	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM ¹	0.289	0.289	0.289	144.7	144.7	144.7	144.7
PM10 ¹	0.128	0.128	0.128	64.1	64.1	64.1	64.1
PM2.5 ¹	0.161	0.161	0.161	80.6	80.6	80.6	80.6
SO ₂ ^{2,4}	0.003	0.011	0.058	1.7	5.5	29.0	29.0
NO _x ^{2,4}	0.026	0.055	0.055	13.0	27.5	27.5	27.5
VOC ²	0.032	0.032	0.032	16.0	16.0	16.0	16.0
CO ³	0.130	0.130	0.130	65.0	65.0	65.0	65.0
Hazardous Air Pollutant							
HCl			2.10E-04			0.11	0.11
Antimony	1.80E-07	1.80E-07	1.80E-07	9.00E-05	9.00E-05	9.00E-05	9.00E-05
Arsenic	5.60E-07	5.60E-07	5.60E-07	2.80E-04	2.80E-04	2.80E-04	2.80E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.05E-04	2.05E-04	2.05E-04	2.05E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	2.75E-03	2.75E-03	2.75E-03	2.75E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.30E-05	1.30E-05	1.30E-05	1.30E-05
Lead	6.20E-07	1.50E-05	1.50E-05	3.10E-04	7.50E-03	7.50E-03	7.50E-03
Manganese	7.70E-06	7.70E-06	7.70E-06	3.85E-03	3.85E-03	3.85E-03	3.85E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	1.20E-04	1.30E-03	1.30E-03	1.30E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	3.15E-02	3.15E-02	3.15E-02	3.15E-02
Selenium	3.50E-07	3.50E-07	3.50E-07	1.75E-04	1.75E-04	1.75E-04	1.75E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	2.00E-02	2.00E-02	2.00E-02	2.00E-02
Acetaldehyde			1.30E-03			0.65	0.65
Acrolein			2.60E-05			1.30E-02	1.30E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.20	0.20	0.20	0.20
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.12	0.12	0.12	0.12
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	1.55	1.55	1.55	1.55
Hexane	9.20E-04	9.20E-04	9.20E-04	0.46	0.46	0.46	0.46
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.02	0.02	0.02	0.02
MEK			2.00E-05			0.01	0.01
Propionaldehyde			1.30E-04			0.07	0.07
Quinone			1.60E-04			0.08	0.08
Toluene	1.50E-04	2.90E-03	2.90E-03	0.08	1.45	1.45	1.45
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.10	0.44	0.44	0.44
Xylene	2.00E-04	2.00E-04	2.00E-04	0.10	0.10	0.10	0.10

Total HAPs 5.33
Worst Single HAP 1.55 (formaldehyde)

Methodology

Limited/Controlled Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-4, 11.1-7, 11.1-8, 11.1-10, and 11.1-12

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

¹ PM, PM10, and PM2.5 AP-42 emission factors based on drum mix dryer fired with natural gas, propane, fuel oil, and waste oil.

According to AP-42 fuel type does not significantly effect PM, PM10, and PM2.5 emissions.

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

³ CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

⁴ The source will limit the combined SO₂ emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and slag processing and the combined NO_x emissions from the dryer mixer burner, hot oil heaters, and diesel fuel-fired portable crusher, such that the SO₂ and NO_x emissions do not exceed 99.0 tons per year, each. Compliance with these limits will be demonstrated using equations.

Abbreviations

VOC - Volatile Organic Compounds
HCl = Hydrogen Chloride

SO₂ = Sulfur Dioxide
HAP = Hazardous Air Pollutant

PAH = Polyaromatic Hydrocarbon

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

The following calculations determine the limited SO2 emissions from the processing of slag in the aggregate drying/mixing.

Blast Furnace Slag Usage Limitation ¹ =	0.740	ton/yr	1.50	% sulfur
Steel Slag Usage Limitation ² =	0.0014	ton/yr	0.66	% sulfur

Slag Type	Emission Factor or Limitation (lb/ton)*	Limited Potential to Emit (tons/yr)
Blast Furnace Slag	0.740	see note ³
Steel Slag	0.0014	see note ³

Methodology

¹ Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from blast furnace slag containing 1.10% sulfur content. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

² Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.

³ The source will limit the combined SO2 emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and slag processing such that the SO2 emissions do not exceed 99.0 tons per year. Compliance with this limit will be demonstrated using an equation.

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

Abbreviations

SO2 = Sulfur Dioxide

Appendix A.2: Limited Emissions Summary
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr
Hot Oil Heaters 14A & 14B

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Maximum Hot Oil Heater Fuel Input Rate =	4.00	MMBtu/hr	(for 2 heaters @ 2.0 MMBtu.hr each)
Natural Gas Usage =	35	MMCF/yr	
No. 2 Fuel Oil Usage =	250,286	gal/yr,	0.50 % sulfur
Propane Usage =	3,206	gal/yr, and	0.20 gr/100 ft3 sulfur
Butane Usage =	357	gal/yr,	0.22 gr/100 ft3 sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)				Unlimited/Uncontrolled Potential to Emit (tons/yr)				Worse Case Fuel (tons/yr)
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Propane lb/kgal	Butane lb/kgal	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	
PM	1.9	2.0	0.5	0.6	0.03	0.25	8.02E-04	1.07E-04	0.25
PM10/PM2.5	7.6	3.3	0.5	0.6	0.13	0.41	8.02E-04	1.07E-04	0.41
SO2*	0.6	71.0	0.02	0.02	0.01	8.89	3.21E-05	3.54E-06	8.89
NOx*	100	20.0	13.0	15.0	1.75	2.50	0.02	2.68E-03	2.50
VOC	5.5	0.20	1.00	1.10	0.10	0.03	1.60E-03	1.97E-04	0.10
CO	84	5.0	7.5	8.4	1.47	0.63	0.01	1.50E-03	1.47
Hazardous Air Pollutant									
Arsenic	2.0E-04	5.6E-04			3.5E-06	7.0E-05			7.0E-05
Beryllium	1.2E-05	4.2E-04			2.1E-07	5.3E-05			5.3E-05
Cadmium	1.1E-03	4.2E-04			1.9E-05	5.3E-05			5.3E-05
Chromium	1.4E-03	4.2E-04			2.5E-05	5.3E-05			5.3E-05
Cobalt	8.4E-05				1.5E-06				0.0
Lead	5.0E-04	1.3E-03			8.8E-06	1.6E-04			1.6E-04
Manganese	3.8E-04	8.4E-04			6.7E-06	1.1E-04			1.1E-04
Mercury	2.6E-04	4.2E-04			4.6E-06	5.3E-05			5.3E-05
Nickel	2.1E-03	4.2E-04			3.7E-05	5.3E-05			5.3E-05
Selenium	2.4E-05	2.1E-03			4.2E-07	2.6E-04			2.6E-04
Benzene	2.1E-03				3.7E-05				0.0
Dichlorobenzene	1.2E-03				2.1E-05				0.0
Ethylbenzene									0.0
Formaldehyde	7.5E-02	6.10E-02			1.3E-03	7.6E-03			7.6E-03
Hexane	1.8E+00				3.2E-02				0.0
Phenol									0.0
Toluene	3.4E-03				6.0E-05				0.0
Total PAH Haps	negl				negl				0.0
Polycyclic Organic Matter		3.30E-03				4.1E-04			4.1E-04
Total HAPs =					3.3E-02	8.9E-03	0.0	0.0	0.041

Methodology

*The source will limit the combined SO2 emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and slag processing and the combined NOx emissions from the dryer mixer burner, hot oil heaters, and diesel fuel-fired portable crusher, such that the SO2 and NOx emissions do not exceed 99.0 tons per year, each. Compliance with these limits will be demonstrated using equations.

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

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

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

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

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM & PM2.5 = PM10)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 SO2 = Sulfur Dioxide

NOx = Nitrous Oxides
 VOC - Volatile Organic Compounds
 CO = Carbon Monoxide

HAP = Hazardous Air Pollutant
 HCl = Hydrogen Chloride
 PAH = Polyaromatic Hydrocarbon

**Appendix A.2: Limited Emissions Summary
Reciprocating Internal Combustion Engines
Diesel Fuel-fired Portable Crusher
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)**

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	540.0
Maximum Operating Hours per Year	8760
Potential Throughput (hp-hr/yr)	4,730,400

Diesel Engine Oil Usage¹ = 241,699 gal/yr
Sulfur Content = 0.50 % sulfur

	Criteria Pollutants						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	42.47	42.47	42.47	39.73	604.17	49.32	130.15
Potential Emission in tons/yr	5.13	5.13	5.13	4.80	73.01	5.96	15.73

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

	Hazardous Air Pollutants (HAPs)							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/kgal****	1.28E-01	5.60E-02	3.90E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Potential Emission in tons/yr	1.54E-02	6.77E-03	4.72E-03	6.47E-04	1.95E-02	1.27E-02	1.53E-03	2.78E-03

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

****Emission factors in lb/MMBtu were converted to lb/kgal using the heating value of diesel fuel oil (137,000 Btu/gal) as taken from AP 42 Appendix A (09/85), page A-5.

Potential Emission of Total Combined HAPs (tons/yr)	0.064
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Notes

Constant: 1 kilogallon (kgal) = 1000 gallons (gal)

The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.

Emission Factors for Diesel Fuel Oil combustion are from AP 42 - 3.3 Gasoline and Diesel Industrial Engines (Supplement B 10/96), Tables 3.3-1 and 3.3-2

¹The diesel fuel usage rate was determined using the maximum fuel input rate for the crusher (see Appendix A.1 for more details).

Methodology

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

Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]

Limited Potential to Emit (tons/yr) = Diesel Engine Oil Usage (gal/yr) * Emission Factor (lb/kgal) / (1000 gal/kgal * 2,000 lb/ton)]

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

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

Pollutant	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.26	0.29	NA	0.55
Organic PM	3.4E-04	2.5E-04	NA	0.17	0.127	NA	0.30
TOC	0.004	0.012	0.001	2.08	6.09	0.550	8.72
CO	0.001	0.001	3.5E-04	0.67	0.590	0.176	1.44

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

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

Total VOCs	1.95	6.09	0.5	8.57
Total HAPs	0.04	0.09	0.008	0.14
	Worst Single HAP			0.044
				(formaldehyde)

Methodology

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Abbreviations

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	4.4E-04	6.0E-04	NA	1.0E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	4.8E-05	1.8E-05	NA	6.6E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.2E-04	1.7E-04	NA	2.8E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	3.2E-05	7.1E-05	NA	1.0E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.3E-05	0	NA	1.3E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	3.8E-06	0	NA	3.8E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	3.2E-06	0	NA	3.2E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	3.9E-06	0	NA	3.9E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.3E-05	1.2E-05	NA	2.5E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	1.8E-04	2.7E-04	NA	4.4E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	6.3E-07	0	NA	6.3E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	8.5E-05	1.9E-04	NA	2.8E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.3E-03	1.3E-03	NA	2.6E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	8.0E-07	0	NA	8.0E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	4.1E-03	6.7E-03	NA	0.011
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	2.1E-03	2.3E-03	NA	4.4E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	3.8E-05	3.8E-05	NA	7.6E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.4E-03	2.3E-03	NA	3.7E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	2.6E-04	5.6E-04	NA	8.1E-04
Total PAH HAPs							0.010	0.014	NA	0.025
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.0E-03	0	0	2.0E-03

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

Methodology

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

Abbreviations

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	1.95	6.09	0.52	8.57
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.4E-01	1.6E-02	3.6E-02	0.187
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	9.6E-04	3.4E-03	2.5E-04	0.005
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.5E-02	6.7E-02	3.9E-03	0.086
Total non-VOC/non-HAPS					7.30%	1.40%	0.152	0.085	0.040	0.28
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.1E-03	1.9E-03	2.9E-04	3.3E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.0E-04	3.0E-04	5.3E-05	5.5E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.0E-03	2.4E-03	2.7E-04	3.7E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	2.7E-04	9.7E-04	7.2E-05	1.3E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	4.4E-06	2.4E-04	1.2E-06	2.5E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	3.1E-04	1.4E-03	8.3E-05	1.8E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	2.3E-03	0	6.1E-04	2.9E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	5.8E-03	2.3E-03	1.5E-03	0.010
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	1.8E-03	4.2E-02	4.8E-04	0.044
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	3.1E-03	6.1E-03	8.3E-04	0.010
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	3.7E-05	1.9E-05	9.9E-06	6.6E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	1.6E-05	0	1.6E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	1.5E-04	3.3E-04	4.0E-05	5.2E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	1.6E-04	0	4.2E-05	2.0E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	4.4E-03	3.8E-03	1.2E-03	0.009
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	2.7E-05	0	7.2E-06	3.4E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	8.5E-03	1.2E-02	2.3E-03	0.023
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	1.7E-03	3.5E-03	4.4E-04	5.6E-03
Total volatile organic HAPs					1.50%	1.30%	0.031	0.079	0.008	0.119

Methodology

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

Abbreviations

TOC = Total Organic Compounds VOC = Volatile Organic Compound
HAP = Hazardous Air Pollutant MTBE = Methyl tert butyl ether

Appendix A.2: Limited Emissions Summary Material Storage Piles

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

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

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	3.34	1.834	0.642
Limestone	1.6	1.85	9.18	3.103	1.086
RAP	0.5	0.58	3.69	0.390	0.136
Gravel	1.6	1.85	4.09	1.382	0.484
Slag	3.8	4.40	6.94	5.571	1.950
Shingles	0.5	0.58	5.52	0.583	0.204
RAP/Shingles	0.5	0.58	1.60	0.169	0.059
Totals				13.03	4.56

Methodology

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

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

*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 11/06)

**Maximum anticipated pile size (tons) provided by the source. Pile size has been converted from tons to acres.

PM2.5 = PM10

Abbreviations

PM = Particulate Matter

PM2.5 = Particulate Matter (<2.5 um)

PM10 = Particulate Matter (<10 um)

PTE = Potential to Emit

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

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

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

where: E_f = Emission factor (lb/ton)

k (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter ≤ 100 μm)
 k (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter ≤ 10 μm)
 k (PM2.5) = 0.053 = particle size multiplier (0.053 assumed for aerodynamic diameter ≤ 2.5 μm)
 U = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006*)
 M = 4.0 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)

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

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

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

Methodology

The percent asphalt cement/binder provided by the source.

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]

Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, asbestos-free shingles, and other additives

*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 19.2.2)

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

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

Methodology

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]

Limited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]

Raw materials may include stone/gravel, slag, recycled asphalt pavement (RAP), and asbestos-free shingles.

Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2

*Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).

**Assumes PM10 = PM2.5

Abbreviations

PM = Particulate Matter

PM2.5 = Particulate Matter (<2.5 μm)

PM10 = Particulate Matter (<10 μm)

PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Fugitive Emissions from
Unpaved Roads

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Unpaved Roads at Industrial Site

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

Annual Asphalt Production Limitation = 1,000,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 950,000 tons/yr
 Maximum Asphalt Cement/Binder Throughput = 50,000 tons/yr
 No. 2 Fuel Oil Limitation = 2,788,732 gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	4.2E+04	1.7E+06	560	0.106	4495.5
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.2E+05	560	0.106	4495.5
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.4E+03	6.7E+04	560	0.106	147.2
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.4E+03	1.7E+04	560	0.106	147.2
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.9E+02	1.3E+04	560	0.106	31.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.9E+02	3.5E+03	560	0.106	31.2
Aggregate/RAP/Shingle Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	2.3E+05	4.3E+06	560	0.106	23976.2
Aggregate/RAP/Shingle Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	2.3E+05	3.4E+06	560	0.106	23976.2
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	4.2E+04	1.7E+06	560	0.106	4416.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.1E+05	560	0.106	4416.7
Total					6.2E+05	1.3E+07			6.6E+04

Average Vehicle Weight Per Trip = 20.3 tons/trip
 Average Miles Per Trip = 0.106 miles/trip

Unmitigated Emission Factor, Ef = k*(s/12)^a*((W/3)^b) (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [(365 - P)/365]

Mitigated Emission Factor, Eext = E * [(365 - P)/365]

where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	6.10	1.55	0.16	lb/mile
Mitigated Emission Factor, Eext =	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	13.70	3.49	0.35	9.01	2.30	0.23	4.50	1.15	0.11
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	13.70	3.49	0.35	9.01	2.30	0.23	4.50	1.15	0.11
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.449	0.114	0.01	0.295	0.075	7.5E-03	0.148	0.038	3.8E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.449	0.114	0.01	0.295	0.075	7.5E-03	0.148	0.038	3.8E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.095	0.024	2.4E-03	0.063	0.016	1.6E-03	0.031	0.008	8.0E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.095	0.024	2.4E-03	0.063	0.016	1.6E-03	0.031	0.008	8.0E-04
Aggregate/RAP/Shingle Loader Full	Front-end loader (3 CY)	73.07	18.62	1.86	48.05	12.24	1.22	24.02	6.12	0.61
Aggregate/RAP/Shingle Loader Empty	Front-end loader (3 CY)	73.07	18.62	1.86	48.05	12.24	1.22	24.02	6.12	0.61
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	13.46	3.43	0.34	8.85	2.26	0.23	4.43	1.13	0.11
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	13.46	3.43	0.34	8.85	2.26	0.23	4.43	1.13	0.11
Totals		201.55	51.37	5.14	132.52	33.78	3.38	66.26	16.89	1.69

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)
 PM2.5 = PM10

Abbreviations

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

Appendix A.2: Limited Emissions Summary
Fugitive Emissions from Paved Roads

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

Paved Roads at Industrial Site

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

Annual Asphalt Production Limitation =	1,000,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	950,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	50,000	tons/yr
No. 2 Fuel Oil Limitation =	2,788,732	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	4.2E+04	1.7E+06	560	0.106	4495.5
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.2E+05	560	0.106	4495.5
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.4E+03	6.7E+04	560	0.106	147.2
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.4E+03	1.7E+04	560	0.106	147.2
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.9E+02	1.3E+04	560	0.106	31.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.9E+02	3.5E+03	560	0.106	31.2
Aggregate/RAP/Shingle Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	2.3E+05	4.3E+06	560	0.106	23976.2
Aggregate/RAP/Shingle Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	2.3E+05	3.4E+06	560	0.106	23976.2
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	4.2E+04	1.7E+06	560	0.106	4416.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.1E+05	560	0.106	4416.7
Total					6.2E+05	1.3E+07			6.6E+04

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

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

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

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

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f =	0.149	0.030	0.0073	lb/mile
Mitigated Emission Factor, E_{ext} =	0.136	0.027	0.0067	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.33	0.07	0.02	0.31	0.06	0.02	0.15	0.03	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.33	0.07	0.02	0.31	0.06	0.02	0.15	0.03	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.011	0.002	5.4E-04	0.010	0.002	4.9E-04	0.005	1.0E-03	2.5E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.011	0.002	5.4E-04	0.010	0.002	4.9E-04	0.005	1.0E-03	2.5E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	2.3E-03	4.6E-04	1.1E-04	2.1E-03	4.2E-04	1.0E-04	1.1E-03	2.1E-04	5.2E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	2.3E-03	4.6E-04	1.1E-04	2.1E-03	4.2E-04	1.0E-04	1.1E-03	2.1E-04	5.2E-05
Aggregate/RAP/Shingle Loader Full	Front-end loader (3 CY)	1.78	0.36	0.09	1.63	0.33	0.08	0.82	0.16	0.04
Aggregate/RAP/Shingle Loader Empty	Front-end loader (3 CY)	1.78	0.36	0.09	1.63	0.33	0.08	0.82	0.16	0.04
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.33	0.07	0.02	0.30	0.06	0.01	0.15	0.03	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.33	0.07	0.02	0.30	0.06	0.01	0.15	0.03	0.01
Totals		4.92	0.98	0.24	4.50	0.90	0.22	2.25	0.45	0.11

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)
 PM2.5 = PM10

Abbreviations

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

Appendix A.2: Limited Emissions Summary Cold Mix Asphalt Production and Stockpiles

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

Cold Mix Asphalt VOC Usage Limitation = tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder	Weight % VOC solvent in binder that evaporates	VOC Solvent Usage Limitation (tons/yr)	Limited PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	51.48	48.90
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	69.86	48.90
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	195.61	48.90
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	105.40	48.90
Other asphalt with solvent binder	25.9%	2.5%	1956.14	48.90
Worst Case Limited PTE of VOC =				48.90

Liquid Binder Adjustment Ratio
1.053
1.429
4.000
2.155
40.0

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
Limited PTE of Total HAPs (tons/yr) =	12.76
Limited PTE of Single HAP (tons/yr) =	4.40 Xylenes

Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents

Volatile Organic HAP	CAS#	Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
		Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
Total Organic HAPs		26.08%	0.33%	1.29%	0.68%	0.19%
Worst Single HAP		9.00%	0.31%	0.50%	0.23%	0.07%
		Xylenes	Naphthalene	Xylenes	Xylenes	Chrysene

Methodology

Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [VOC Solvent Usage Limitation (tons/yr)]

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

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

*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2.

Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at:

<http://www.aehs.com/publications/catalog/contents/tph.htm>

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

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

Company Name: Rieth-Riley Construction Co., Inc. (Plant #366)
Source Address: 2454 West CR 450 North, LaPorte, Indiana 46350
Permit Number: F091-29725-03179
Reviewer: Hannah L. Desrosiers
Date Submitted: 9/24/2010

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

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

$$\begin{aligned} \text{Gasoline Throughput} &= 1,300 \text{ gallons/day} \\ &= 474.5 \text{ kgal/yr} \end{aligned}$$

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.07
Tank breathing and emptying	1.0	0.24
Vehicle refueling (displaced losses - controlled)	1.1	0.26
Spillage	0.7	0.17
Total VOCs =		0.74

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	0.19	
Limited PTE of Single HAP (tons/yr) =	0.07	Xylenes

Methodology

The gasoline throughput was provided by the source.

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

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

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

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

*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tpH.htm>

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Ed Clements
Rieth-Riley Construction Co.
PO Box 477
Goshen, IN 46527-0477

DATE: August 25, 2011

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

SUBJECT: Final Decision
FESOP - Renewal
091 - 29725 - 03179

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

August 25, 2011

TO: LaPorte Co Public Library LaPorte Branch

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

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Rieth-Riley Construction Co.
Permit Number: 091 - 29725 - 03179

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: August 25, 2011

RE: Rieth-Riley Construction Co. / 091 - 29725 - 03179

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

In order to conserve paper and reduce postage costs, IDEM's Office of Air Quality is now sending many permit decisions on CDs in Adobe PDF format. The enclosed CD contains information regarding the company named above.

This permit is also available on the IDEM website at:
<http://www.in.gov/ai/appfiles/idem-caats/>

If you would like to request a paper copy of the permit document, please contact IDEM's central file room at:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Please Note: *If you feel you have received this information in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV.*

Enclosures
CD Memo.dot 11/14/08

Mail Code 61-53

IDEM Staff	LPOGOST 8/25/2011 Rieth-Riley Construction Co., Inc. 091 - 29725 - 03179 final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

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1		Ed Clements Rieth-Riley Construction Co., Inc. PO Box 477 Goshen IN 46527-0477 (Source CAATS) Via confirmed delivery										
2		Laurence A. McHugh Barnes & Thornburg 100 North Michigan South Bend IN 46601-1632 (Affected Party)										
3		LaPorte Co Public Library LaPorte Branch, 904 Indiana Ave. LaPorte IN 46350-4307 (Library)										
4		LaPorte County Commissioners 555 Michigan Avenue # 202 LaPorte IN 46350 (Local Official)										
5		Mr. Chris Hernandez Pipefitters Association, Local Union 597 8762 Louisiana St., Suite G Merrillville IN 46410 (Affected Party)										
6		LaPorte County Health Department County Complex, 4th Floor, 809 State St. LaPorte IN 46350-3329 (Health Department)										
7		Mr. Dick Paulen Barnes & Thornburg 121 W Franklin Street Elkhart IN 46216 (Affected Party)										
8		Mark Zeltwanger 26545 CR 52 Nappanee IN 46550 (Affected Party)										
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