



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: April 2, 2008

RE: Brooks Construction Company, Inc. / 039-25540-03325

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 13-17-3-4 and 326 IAC 2, this approval is effective immediately, unless a petition for stay of effectiveness is filed and granted, 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 4-21.5-3-7 and IC 13-15-7-3 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 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-MOD.dot 12/3/07



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Mr. Steve Koble
Brooks Construction Co., Inc.
18130 US 20
Goshen, IN 46256

April 2, 2008

Re: F039-25540-03325
Second Significant Revision to
F039-17738-03325

Dear Mr. Koble:

Brooks Construction Company was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F039-17738-03325 on July 14, 2004 for a portable hot mix asphalt plant located at 18120 US 20, Goshen. On November 14, 2007, the Office of Air Quality (OAQ) received an application from the source requesting to use waste oil as a backup fuel in the aggregate dryer burner. The attached Technical Support Document (TSD) provides additional explanation of the changes to the source/permit. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

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

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Rebecca Jacobs, of my staff, at 317-234-5378 or 1-800-451-6027, and ask for extension 4-5378.

Sincerely,

Original signed by Tripurari Sinha for
Matthew Stuckey, Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Document and revised permit

MS/rjj

cc: File - Elkhart County
Elkhart County Health Department
U.S. EPA, Region V
Air Compliance Section
IDEM Northern Regional Office
Compliance Data Section
Technical Support and Modeling
Permits Administrative and Development
Billing, Licensing and Training Section





Mitchell E. Daniels, Jr.
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Thomas W. Easterly
Commissioner

100 North Senate Avenue
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Indianapolis, Indiana 46204-2251
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

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

**Brooks Construction Company, Inc.
18130 U.S. Highway 20
Goshen, Indiana 46526
(Portable)**

(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 provision of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; and 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.

Operation Permit No. F039-17738-03325	
Original signed by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: July 14, 2004 Expiration Date: July 14, 2014

First Significant Permit Revision No. 039-21827-03325, issued on January 19, 2006

Second Significant Permit Revision No. 039-25540-03325	
Issued by: <i>Original signed by Tripurari Sinha for Matthew Stuckey, Chief Permits Branch Office of Air Quality</i>	Pages affected: Entire permit Issuance Date: April 2, 2008 Expiration Date: July 14, 2014

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SECTION A SOURCE SUMMARY

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

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

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

Source Address:	18130 U.S. Highway 20, Goshen, Indiana, 46526
Mailing Address:	P.O. Box 9560, Fort Wayne, Indiana, 46899
General Source Phone:	(260) 478-1990
SIC Code:	2951
Initial County Location:	Elkhart
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD, Emission Offset, and Nonattainment New Source Review Rules Not 1 of 28 Source Categories

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

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

- (a) One (1) drum dryer/mixer, constructed after June 11, 1973, identified as Emissions Unit No. 2, with a maximum capacity of 300 tons per hour, equipped with one (1) 84 MMBtu/hr natural gas-fired burner, using No. 2 distillate fuel oil, and refinery blend fuel oil, and waste oil as back-up fuels, controlled by one (1) baghouse with a knockout box, exhausting to Stack SV1.
- (b) One (1) drag slat conveyor.
- (c) Three (3) feeder conveyors.
- (d) One (1) screen.
- (e) Cold-mix (emulsified) asphalt storage piles, containing emulsified asphalt with 1.5% oil distillate by volume.

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

This portable source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) Btu per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight, including one (1) No. 2 distillate fuel oil-fired hot oil heater, identified as Emission Unit No. 10, with a maximum heat input rate of 1.4 million Btu per hour, using natural gas as back-up fuel, and exhausting at Stack SV2.
- (b) A laboratory as described in 326 IAC 2-7-1(20)(C), including one (1) testing lab trailer.
- (c) Paved and unpaved roads and parking lots with public access.

- (d) Storage tanks with volatile organic compound emissions equal to or less than 3 pounds per hour and 15 pounds per day, and HAP emissions equal to or less than 5 pounds per day and 1 ton per year of a single HAP and 12.5 pounds per day and 2.5 ton per year of any combination of HAPs, including:
 - (1) Two (2) liquid asphalt storage tanks, constructed after July 23, 1984, identified as Tank No. 11 and T12 each with a maximum storage capacity of 20,000 gallons, exhausting at Stacks SV3 and SV4.
 - (2) One (1) No. 2 distillate fuel oil storage tank, constructed before July 23, 1984, identified as Tank No. 12, with a maximum storage capacity of 8,000 gallons, exhausting at Stack SV4.
 - (3) One (1) hot mix asphalt cement storage silo, constructed before July 23, 1984, with a maximum storage capacity of 300 tons.
- (e) Processing and storage units with particulate matter emissions equal to or less than 5 pounds per hour and 25 pounds per day, including the following units:
 - (1) One (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 100 tons.
 - (2) One (1) RAP feed bin with a capacity of 25 tons.
 - (3) Aggregate storage piles, with a maximum storage capacity of 36,000 tons.

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

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

A.5 Prior Permits Superseded [326 IAC 2-1.1-9.5]

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

SECTION B GENERAL CONDITIONS

B.1 Permit No Defense [IC 13]

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.

B.2 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.3 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5]

This permit, F039-17738-03325, 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.

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

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

B.5 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.6 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.7 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.8 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

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

B.9 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.10 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

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

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

- (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 in letter form no later than April 15 of each year to:

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

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

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

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

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs), including the following information on each facility:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation, Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.13 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 describes the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone No.: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section) or,
Telephone No.: 317-233-0178 (ask for Compliance Section)
Facsimile No.: 317-233-6865

And

IDEM Northern Regional Office:
Telephone No.: 1-800-753-5519 or,
Telephone No.: 574-245-4870
Facsimile No.: 574-245-4877

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

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

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

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

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

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

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

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

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

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

B.14 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

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

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

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

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

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

B.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 FESOP modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this

permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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

- (b) Timely Submittal of Permit Renewal [326 IAC 2-8-3]
- (1) A timely renewal application is one that is:
- (A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
- (B) 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.
- (2) If IDEM, OAQ upon receiving a timely and complete 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.
- (c) Right to Operate After Application for Renewal [326 IAC 2-8-9]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ, any additional information identified as 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement the administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]
- (d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.

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 this source that are described in 326 IAC 2-8-15(b) through (d), without prior permit revision, if each of the following conditions is met:

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

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

and

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

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

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

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

- (b) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ or U.S. EPA is required.

B.19 Permit Revision Requirement [326 IAC 2-8-11.1]

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

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

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

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

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

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

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

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

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period. This limitation shall also make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-3 (Emission Offset) not applicable;
- (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 of particulate matter (PM), from the entire source shall be limited to less than 250 tons per twelve (12) consecutive month period.

(b) 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.

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

C.3 Opacity [326 IAC 5-1]

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

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

C.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(3)]

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

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

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

C.7 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 plan submitted on March 11, 1996. The plan is included as 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 demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 IGCN 1003
Indianapolis, Indiana 46204-2251

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

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1 emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Accredited Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

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

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

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

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

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

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

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

by IDEM, OAQ, if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented upon issuance of this permit. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

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

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

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

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

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

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

C.14 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]

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by

excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:

- (1) initial inspection and evaluation;
 - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
- (1) monitoring results;
 - (2) review of operation and maintenance procedures and records;
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
- (1) monitoring data;
 - (2) monitor performance data, if applicable; and
 - (3) corrective actions taken.

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

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

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

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

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

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

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

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Portable Source Requirement

C.19 Relocation of Portable Sources [326 IAC 2-14-4]

- (a) This portable source is allowed to operate in all areas of Indiana except Lake County, LaPorte County, Porter County, and in areas that are designated as extreme, severe, or serious non-attainment for any National Ambient Air Quality Standard. This determination is based on the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-3 (Emission Offset), 326 IAC 2-6 (Emission Reporting), 326 IAC 5-1 (Opacity Limitations), and 326 IAC 6.8-11 (Lake County: Particulate Matter

Contingency Measures). Prior to locating in Lake County, LaPorte County, Porter County, and in area that is designated as extreme, severe, or serious non-attainment for any National Ambient Air Quality Standard, the Permittee must submit a request and obtain a permit modification.

- (b) A request to relocate shall be submitted to IDEM, OAQ at least thirty (30) days prior to the intended date of relocation. This submittal shall include the following:
 - (1) A list of governmental officials entitled to receive notice of application to relocate. IC 13-15-3-1
 - (2) A list of adjacent landowners that the Permittee will send written notice to not more than ten (10) days after submission of the request to relocate. IC 13-15-8

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

- (c) A "Relocation Site Approval" letter shall be obtained prior to relocating.
- (d) The Permittee shall also notify the applicable local air pollution control agency when relocating to, or from, one the following:
 - (1) Madison County - (Anderson Office of Air Management)
 - (2) City of Evansville plus four (4) miles beyond the corporate limits but not outside Vanderburgh County - (Evansville EPA)
 - (3) City of Gary - (Gary Department of Environmental Affairs)
 - (4) City of Hammond - (Hammond Department of Environmental Management)
 - (5) Marion County - (Indianapolis Office of Environmental Services)
 - (6) Vigo County - (Vigo County Air Pollution Control)
- (e) A valid operation permit consists of this document and any subsequent "Relocation Site Approval" letter specifying the current location of the portable plant.

Stratospheric Ozone Protection

C.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 the standards for recycling and emissions reduction:

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

SECTION D.1 FACILITY OPERATION CONDITIONS

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

- (a) One (1) drum dryer/mixer, constructed after June 11, 1973, identified as Emissions Unit No. 2, with a maximum capacity of 300 tons per hour, equipped with one (1) 84 MMBtu/hr natural gas-fired burner, using No. 2 distillate fuel oil, refinery blend fuel oil, and waste oil as back-up fuels, controlled by one (1) baghouse with a knockout box, exhausting to Stack SV1.
- (b) One (1) drag slat conveyor.
- (c) Three (3) feeder conveyors.
- (d) One (1) screen.
- (e) Cold-mix (emulsified) asphalt storage piles, containing emulsified asphalt with 1.5% oil distillate by volume.

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

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

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

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

D.1.2 Particulate Matter (PM) [40 CFR 60, Subpart I][326 IAC 12-1]

Pursuant to 40 CFR 60, Subpart I:

- (a) particulate matter emissions from the asphalt plant shall not exceed 0.04 grains per dry standard cubic foot (gr/dscf), and
- (b) the visible emissions from the plant shall not exceed 20 percent opacity.

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

Pursuant to 326 IAC 6.5-1-2 (formerly 326 IAC 6-1-2) (Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the drum-mix dryer shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf). Compliance with this requirement ensures compliance with Condition D.1.2(a).

D.1.4 Particulate Matter 10 Micron (PM₁₀), Volatile Organic Compounds (VOC), and Carbon Monoxide (CO) [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-3][326 IAC 2-1.1-5]

Pursuant to 326 IAC 2-8-4, the emissions of PM₁₀, CO, and VOC from the dryer/mixer shall be limited as follows:

- (a) The asphalt production rate shall be limited to less than 1,500,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) PM₁₀ emissions from the dryer/mixer shall be limited to less than 0.074 pounds of PM₁₀ per ton of asphalt produced.

- (c) CO emissions from the dryer/mixer shall be limited to less than 0.130 pounds of CO per ton of asphalt produced.
- (d) VOC emissions from the dryer/mixer shall be limited to less than 0.032 pounds of VOC per ton of asphalt produced.

Compliance with these limits, combined with the potential to emit PM₁₀, CO, and VOC from all other emission units at this source, will render 326 IAC 2-7 (Part 70 Permit Program), and 326 IAC 2-2 (PSD), and 326 IAC 2-3 (Emission Offset) not applicable. Compliance with this limit will also render the requirements of 326 IAC 2-1.1-5 (Nonattainment New Source Review) not applicable for PM_{2.5} emissions when located in a county that is nonattainment for PM_{2.5}.

D.1.5 Volatile Organic Compound (VOC) [326 IAC 8-5-2]

Pursuant to 326 IAC 8-5-2, the Permittee shall not cause or allow the use of cutback asphalt or asphalt emulsion containing more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:

- (a) Penetrating prime coating
- (b) Stockpile storage
- (c) Application during the months of November, December, January, February and March.

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

- (a) Pursuant to 326 IAC 7-1.1 (SO₂ Emissions Limitations), the SO₂ emissions from the dryer/mixer burner at the asphalt plant shall not exceed five-tenths (0.5) pound per million Btu heat input while combusting distillate oil (including No. 2 fuel oil).
- (b) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the dryer/mixer burner shall be limited to 1.6 pounds per million Btu heat input when using residual oil (including refinery blend fuel oil and waste oil).
- (c) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.1.7 FESOP Limits for SO₂ and VOC [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-3]

Pursuant to 326 IAC 2-8-4, the SO₂ emissions from the dryer/mixer burner shall be limited as follows:

- (a) The total usage of refinery blend fuel oil and refinery blend fuel oil equivalents for the dryer/mixer burner and all other fuel combustion equipment shall be limited to less than 1,320,000 gallons or equivalent per twelve (12) consecutive month period, with compliance determined at the end of each month.

For the purpose of determining compliance with this limit:

- (1) Every 250 million cubic feet of natural gas shall be equivalent to one thousand (1000) gallons of refinery blend fuel oil. However, the natural gas usage shall in no case exceed 735.84 million cubic feet per twelve (12) consecutive month period.
- (2) Every 2.11 gallons of No. 2 fuel oil shall be equivalent to one (1) gallon of refinery blend fuel oil. However, the No. 2 fuel oil usage shall in no case exceed 2,530,000 gallons per twelve (12) consecutive month period.

- (3) Every 1.02 gallons of waste oil shall be equivalent to one (1) gallon of refinery blend fuel oil. However, the waste oil usage shall in no case exceed 750,000 gallons per twelve (12) consecutive month period.
- (b) The sulfur content of the No. 2 fuel oil shall not exceed 0.5% by weight.
- (c) The sulfur content of the refinery blend fuel oil and waste oil each shall not exceed 1.0% by weight.

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

- (d) The VOC emissions from any liquid binder used in asphalt production shall not exceed 50.0 tons per year. The liquid binder used in asphalt production shall be limited as follows:
 - (1) Cutback asphalt rapid cure liquid binder usage shall not exceed 52.63 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. (Based on 95% volatilization)
 - (2) Cutback asphalt medium cure liquid binder usage shall not exceed 71.43 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. (Based on 70% volatilization)
 - (3) Cutback asphalt slow cure liquid binder usage shall not exceed 200.0 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. (Based on 25% volatilization)
 - (4) Emulsified asphalt with solvent liquid binder usage shall not exceed 102.04 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. (Based on 49% volatilization)
 - (5) Emulsified asphalt with fuel oil liquid binder usage shall not exceed 714.29 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. The fuel oil diluent shall be limited to 1.5% of the total weight of the emulsified asphalt mix. (Based on 7% volatilization)
 - (6) The VOC solvent allotments in (1) through (5) above shall be adjusted when more than one type of binder is used per twelve (12) month consecutive period with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder (or for a type of binder not listed above), the Permittee shall use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment ratio listed in the table that follows. [The adjustment ratio is equal to 1/(percent of initial VOC in solvent that volatilizes or is emitted from the final product)]

Tons of solvent contained in binder/ Adjustment ratio = tons of VOC emitted

Or

Tons of solvent contained in binder x Percent volatilization = tons of VOC emitted

Type of binder	Adjustment ratio
Cutback Asphalt Rapid Cure (95% volatilization)	1.05
Cutback Asphalt Medium Cure (70% volatilization)	1.42
Cutback Asphalt Slow Cure (25% volatilization)	4.00
Emulsified Asphalt (49% volatilization)	2.04
Emulsified Asphalt (7% volatilization)	14.28

The equivalent total tons of VOC emitted from the combined liquid binders shall be less than 50.0 tons per twelve consecutive month period with compliance determined at the end of each month.

Compliance with these limits, combined with the VOC emissions from other units at the source, will limit source-wide VOC emissions to less than 100 tons per twelve (12) consecutive month period and will render 326 IAC 2-7 (Part 70 Permit Program), 326 IAC 2-2 (PSD), and 326 IAC 2-3 (Emission Offset) not applicable.

D.1.8 Particulate Matter (PM) [326 IAC 2-2]

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 be limited to less than 1,500,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) PM emissions from the dryer/mixer shall be limited to less than 0.186 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, will limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.9 Hazardous Air Pollutants (HAP) [326 IAC 2-8-4][326 IAC 2-4.1]

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

- (a) The chlorine content of the waste oil used in the dryer/mixer burner all other fuel combustion equipment shall not exceed four tenths of a percent (0.40%) by weight.
- (b) The usage of waste oil used in the dryer/mixer burner all other fuel combustion equipment shall be limited to less than 750,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) The HCl emissions from the dryer/mixer burner shall be limited to less than 26.4 pounds of HCl per 1,000 gallons of waste oil burned.

Compliance with these limits, combined with the potential to emit HAP from all other emission units at this source, will limit the source-wide potential to emit HCl to less than 10 tons per year and combined HAPs to less than 25 tons per year and render 326 IAC 2-7 (Part 70) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

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

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

Compliance Determination Requirements

D.1.11 Particulate Emissions Control

- (a) In order to comply with Conditions D.1.2, D.1.3, D.1.4(b), and D.1.8(b), the knock-out box and baghouse controlling emissions from the dryer/mixer shall be in operation at all times that the dryer/mixer at this asphalt plant is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.12 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.1.3, D.1.4(b), and D.1.8(b), the Permittee shall perform PM and PM10 testing utilizing methods as approved by the Commissioner, at least once every five years from October 12, 2004, the date of the most recent valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C - Performance Testing.

D.1.13 Sulfur Dioxide (SO₂) Emissions and Sulfur Content

Compliance with Conditions D.1.6 and D.1.7(b) and (c) shall be determined utilizing one of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions and sulfur content do not exceed the limitations contained in Conditions D.1.6 and D.1.7(b) and (c) by:
 - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 84 MMBtu per hour burner for the dryer/mixer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

D.1.14 VOC Emissions

Compliance with Condition D.1.7(d) shall be demonstrated each month based on the amount of fuel oil diluent used in the production of cold mix emulsified asphalt for the twelve (12) consecutive month period.

D.1.15 Hydrogen Chloride (HCl) Emissions and Chlorine Content

In order to comply with Conditions D.1.9(a) and D.1.9(c), the Permittee shall demonstrate that the chlorine content of the fuel used for the dryer burner all other fuel combustion equipment does not exceed four tenths of a percent (0.40%) by weight, when operating on waste oil, by providing a vendor analysis of fuel delivered accompanied by a vendor certification.

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

- (a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the dryer/mixer burner 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 2.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.
- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.18 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately

until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission 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 Requirement [326 IAC 2-8-4(3)][326 IAC 2-8-16]

D.1.19 Record Keeping Requirements

- (a) To document compliance with Condition D.1.16, the Permittee shall maintain records of visible emission notations of the dryer/mixer baghouse stack, the transfer points, and the conveyor exhausts once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the plant did not operate that day).
- (b) To document compliance with Condition D.1.17, the Permittee shall maintain records of the pressure drop during normal operation. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g., the dryer/mixer did not operate that day).
- (c) To document compliance with Condition D.1.6 and D.1.7(b) and (c), D.1.9 (a) and (c), the Permittee shall maintain records in accordance with (1) through (8) below. Records maintained for (1) through (8) shall be taken monthly and shall be complete and sufficient to establish compliance with the SO₂ emission limits established in Conditions D.1.6 and D.1.7(b) and (c), D.1.9 (a) and (c).
- (1) Calendar dates covered in the compliance determination period;
 - (2) Actual fuel usage of each type of fuel used per month since the last compliance determination period;
 - (3) Average heating value of the No. 2 oil refinery blend fuel oil, and waste oil;
 - (4) Average sulfur dioxide (SO₂) emission rate (pounds per million Btu);
 - (5) 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 if the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (6) Fuel supplier certifications;
 - (7) The name of the fuel supplier; and
 - (8) A statement from the fuel supplier that certifies the sulfur content of the fuel oil, or waste oil, and a statement from the fuel supplier that certifies the chlorine content of the waste oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (d) To document compliance with Conditions D.1.7(a), (b), and (c), D.1.9(a) and (b), and D.1.6, the Permittee shall keep records of the actual amount of each fuel used at the dryer/mixer burner all other fuel combustion equipment, since the last compliance determination period and equivalent sulfur dioxide and hydrogen chloride emissions. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.
- (e) To document compliance with Conditions D.1.4(a) and D.1.8(a), the Permittee shall keep records of the amount of hot mix asphalt produced per month. Records maintained shall be complete and sufficient to establish compliance with the hot mix asphalt production limits established in Conditions D.1.4(a) and D.1.8(a).
- (f) To document compliance with Condition D.1.7(d), the Permittee shall maintain records at the facility of the amount of fuel oil diluent used in the production of cold mix emulsified asphalt each month. The records shall be complete and sufficient to establish compliance with the VOC usage limit set in Condition D.1.7(d) of this permit. The records shall contain a minimum of the following:
 - (1) Amount of cold-mix (emulsified) asphalt produced each month and for the past twelve (12) months.
 - (2) Amount and type of emulsion used in the production of cold mix emulsified asphalt each month;
 - (3) The percent fuel oil used in the emulsion;
 - (4) The VOC solvent content by weight of the emulsion used in the production of cold mix emulsified asphalt each month; and
 - (5) The amount of VOC volatilized from the cold-mix (emulsified) asphalt produced each month and for the past twelve (12) months.

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 cold mix emulsified asphalt may be used to document volatilization. All records shall be maintained in accordance with Section C – General Record Keeping Requirements, of this permit.

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

D.1.20 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.4(a), D.1.7(a), (d), D.1.8(a), and D.1.9(b) shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.2

FACILITY OPERATION CONDITIONS

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

- (a) One (1) No. 2 distillate fuel oil storage tank, constructed before July 23, 1984, identified as Tank No. 12, with a maximum storage capacity of 8,000 gallons, exhausting at Stack SV4.

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

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

D.2.1 Record Keeping and Reporting Requirements [326 IAC 8-9-6]

Pursuant to 326 IAC 8-9-6 (Volatile Organic Liquid Storage Vessels), the Permittee shall maintain a record and submit to the department a report containing the following information on the 8,000 gallon No. 2 distillate fuel oil storage tank:

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

The owner or operator of a stationary vessel shall keep all records as described for the life of the vessel.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Brooks Construction Company, Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Mailing Address: P.O. Box 9560, Fort Wayne, Indiana 46899
FESOP No.: F039-17738-03325

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

Please check what document is being certified:

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

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

Signature:

Printed Name:

Title/Position:

Date:

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

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

Source Name: Brooks Construction Company, Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Mailing Address: P.O. Box 9560, Fort Wayne, Indiana 46899
FESOP No.: F039-17738-03325

This form consists of 2 pages

Page 1 of 2

- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16

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

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

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

Page 2 of 2

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

Form Completed by: _____
Title / Position: _____
Date: _____
Phone: _____

A certification is not required for this report.

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

Single Liquid Binder Solvent Quarterly Report

Source Name: Brooks Construction Company, Inc.
 Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
 Mailing Address: P.O. Box 9560, Fort Wayne, Indiana 46899
 FESOP No.: F039-17738-03325
 Facility: Asphalt plant
 Parameter: VOC – solvent usage, liquid binder usage

Limit: Cutback asphalt rapid cure liquid binder usage shall not exceed 52.63 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month.
 Cutback asphalt medium cure liquid binder usage shall not exceed 71.43 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month.
 Cutback asphalt slow cure liquid binder usage shall not exceed 200.0 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month.
 Emulsified asphalt with solvent liquid binder usage shall not exceed 102.04 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month.
 Emulsified asphalt with fuel oil liquid binder usage shall not exceed 714.29 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: _____

The following liquid binder solvent was the only liquid binder solvent used over the previous 12 month period: _____ Limit applicable: _____
 (use of more than one binder requires the use of the "Multiple Liquid Binder Solvents" report form)

Month	Column 1	Column 2	Column 1 + Column 2
	Solvent Usage This Month (tons)	Solvent Usage Previous 11 Months (tons)	Solvent Usage 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: _____

Attach a signed certification to complete this report.

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

Multiple Liquid Binder Solvent Quarterly Report

Source Name: Brooks Construction Company, Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Mailing Address: P.O. Box 9560, Fort Wayne, Indiana 46899
FESOP No.: F039-17738-03325
Facility: Cold-mix asphalt production
Parameter: VOC Emissions from Liquid Binder Solvent Usage
Limit: 50.0 tons per year

Year:

Month	Type of Liquid binder	Solvent Usage This Month (tons)	Divisor	VOC emitted This Month (tons) for each solvent	VOC emitted This Month (tons)	VOC emitted Previous 11 Months (tons)	This month + Previous 11 months =VOC emitted 12 Month Total(tons)
Month 1	Cutback Asphalt Rapid Cure (95% volatilization)		1.05				
	Cutback Asphalt Medium Cure (70% volatilization)		1.42				
	Cutback Asphalt Slow Cure (25% volatilization)		4.00				
	Emulsified Asphalt (49% volatilization)		2.04				
	Emulsified Asphalt (7% volatilization)		14.28				
Month 2	Cutback Asphalt Rapid Cure (95% volatilization)		1.05				
	Cutback Asphalt Medium Cure (70% volatilization)		1.42				
	Cutback Asphalt Slow Cure (25% volatilization)		4.00				
	Emulsified Asphalt (49% volatilization)		2.04				
	Emulsified Asphalt (7% volatilization)		14.28				
Month 3	Cutback Asphalt Rapid Cure (95% volatilization)		1.05				
	Cutback Asphalt Medium Cure (70% volatilization)		1.42				
	Cutback Asphalt Slow Cure (25% volatilization)		4.00				
	Emulsified Asphalt (49% volatilization)		2.04				
	Emulsified Asphalt (7% volatilization)		14.28				

- No deviation occurred in this reporting period.
 Deviation/s occurred in this reporting period.
 Deviation has been reported on:

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

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Brooks Construction Company, Inc.
 Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
 Mailing Address: P.O. Box 9560, Fort Wayne, Indiana 46899
 FESOP No.: F039-17738-03325
 Facility: 84.0 MMBtu per hour burner for the dryer/mixer
 Parameter: Refinery blend fuel oil & refinery blend fuel oil equivalents usage
 Limit: The total usage of refinery blend fuel oil and refinery blend fuel oil equivalents for the dryer/mixer burner all other fuel combustion equipment shall be limited to less than 1,320,000 gallons or equivalent per twelve (12) consecutive month period, with compliance determined at the end of each month.

- For the purpose of determining compliance with this limit:
- (1) Every 250 million cubic feet of natural gas shall be equivalent to one thousand (1000) gallons of refinery blend fuel oil.
 - (2) Every 2.11 gallons of No. 2 fuel oil shall be equivalent to one (1) gallon of refinery blend fuel oil
 - (3) Every 1.02 gallons of waste oil shall be equivalent to one (1) gallon of refinery blend fuel oil.

The sulfur content of the No. 2 fuel oil shall not exceed 0.5% by weight and the sulfur content of the refinery blend fuel oil and waste oil shall not exceed 1.0% by weight.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Refinery Blend Fuel Oil & Equivalent Usage This Month (gallons)	Refinery Blend Fuel Oil & Equivalent Usage Previous 11 Months (gallons)	12 Month Total Refinery Blend Fuel Oil & Equivalent Usage (gallons)
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
MC-61-53 IGCN 1003**

FESOP Quarterly Report

Source Name: Brooks Construction Company, Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Mailing Address: P.O. Box 9560, Fort Wayne, Indiana 46899
FESOP No.: F039-17738-03325
Facility: One (1) drum dryer/mixer
Parameter: Hot mix asphalt production
Limit: 1,500,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

QUARTER: _____ YEAR: _____

Month	Asphalt Produced (tons)	Asphalt Produced (tons)	Asphalt Produced (tons)
	This Month	Previous 11 Months	12 Month Total

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

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Brooks Construction Company, Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Mailing Address: P.O. Box 9560, Fort Wayne, Indiana 46899
FESOP No.: F039-17738-03325

Months: _____ to _____ Year: _____

Page 1 of 2

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "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: _____

Attach a signed certification to complete this report.

Attachment A

Brooks Construction Company, Inc. Asphalt Plant Site Fugitive Dust Control Plan

- (a) Fugitive particulate matter emissions from paved roads, unpaved roads and parking lots shall be controlled by one or more of the following methods:
- Paved Roads and Parking lots:
- (1) cleaning by vacuum sweeping on an as-needed basis (monthly at minimum)
 - (2) power brooming while wet either from rain or application of water.
- Unpaved Roads and Parking Lots:
- (1) paving with asphalt;
 - (2) treating with emulsified asphalt;
 - (3) watering;
 - (4) double chip and seal the road surface.
- (b) Fugitive particulate matter emissions from aggregate stockpiles shall be controlled by one or more of the following methods on an as-needed basis:
- (1) maintaining minimum size and number of aggregate piles;
 - (2) treating around the stockpile area with emulsified asphalt;
 - (3) treating around the stockpile area with water;
 - (4) treating the stockpiles with water.
- (c) Fugitive particulate matter emissions from outdoor conveying of aggregates shall be controlled by applying water at the feed and intermediate points on an as-needed basis.
- (d) Fugitive particulate matter emissions from the transfer of aggregates shall be controlled by one or more of the following methods:
- (1) minimize the vehicular distance between transfer points;
 - (2) enclose the transfer points;
 - (3) apply water to transfer points on an as-needed basis.
- (e) Fugitive particulate matter emissions from the transportation of aggregate by truck, front end loader, etc., shall be controlled by one of the following methods:
- (1) tarping the aggregate hauling vehicles;
 - (2) maintain vehicle bodies in a condition that prevents leakage;
 - (3) spray the aggregates with water;
 - (4) maintain a 10 mile per hour speed limit in the yard.
- (f) Fugitive particulate matter emissions from the loading and unloading of aggregates shall be controlled by one of the following methods:
- (1) reduce free fall distance to a minimum;
 - (2) reduce the rate of discharge of the aggregate;
 - (3) spray the aggregate with water on an as-needed basis.

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

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

Source Background and Description

Source Name:	Brooks Construction
Source Location:	18130 U.S. Highway 20, Goshen, IN 46526
County:	Elkhart
SIC Code:	2951
Operation Permit No.:	F 039-17738-03325
Operation Permit Issuance Date:	July 14, 2004
Significant Permit Revision No.:	F 039-25540-03325
Permit Reviewer:	Rebecca Jacobs

On February 21, 2008, the Office of Air Quality (OAQ) had a notice published in The Goshen News, Goshen, Indiana, stating that Brooks Construction Company had applied for a Significant Permit Revision to burn waste oil in the aggregate drum dryer/mixer. The notice also stated that the OAQ proposed to issue a Significant Permit Revision 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 February 25, 2008, Bruce Carter Associates, L.L.C., on behalf of Brooks Construction Company submitted comments to IDEM, OAQ on the draft Significant Permit Revision.

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:

Brooks Construction Company would like the sulfur limit for the waste oil to be changed from 0.5% to 1.0%.

Response to Comment 1:

IDEM agrees with the recommended changes. No change to the waste oil usage limit is necessary since the limited potential to emit SO₂ will still be less than the major source threshold of 100 tons per year. The fuel equivalencies have been updated based on the 1.0% sulfur content. (See attached updated calculations.) The permit has been revised as follows:

D.1.7 FESOP Limits for SO₂ and VOC [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-3]

Pursuant to 326 IAC 2-8-4, the SO₂ emissions from the dryer/mixer burner shall be limited as follows:

...

- (3) Every ~~2.04~~ **1.02** gallons of waste oil shall be equivalent to one (1) gallon of refinery blend fuel oil. However, the waste oil usage shall in no case exceed 750,000 gallons per twelve (12) consecutive month period.
- (b) The sulfur content of the No. 2 fuel oil ~~and waste oil each~~ shall not exceed 0.5% by weight.
- (c) The sulfur content of the refinery blend fuel oil **and waste oil each** shall not exceed 1.0% by weight.

...

D.1.13 Sulfur Dioxide (SO₂) Emissions and Sulfur Content

Compliance with Conditions D.1.6 and D.1.7(b) and (c) shall be determined utilizing one of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions **and sulfur content** do not exceed **the limitations contained in Conditions D.1.6 and D.1.7(b) and (c)** ~~five tenths (0.5) pounds per million Btu heat input when burning No. 2 distillate fuel oil and that the sulfur dioxide emissions do not exceed 1.6 pounds per million Btu heat input when burning refinery blend fuel oil or waste oil by:~~

...

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

FESOP Quarterly Report

Source Name: Brooks Construction Company, Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Mailing Address: P.O. Box 9560, Fort Wayne, Indiana 46899
FESOP No.: F039-17738-03325
Facility: 84.0 MMBtu per hour burner for the dryer/mixer
Parameter: Refinery blend fuel oil & refinery blend fuel oil equivalents usage
Limit: The total usage of refinery blend fuel oil and refinery blend fuel oil equivalents for the dryer/mixer burner all other fuel combustion equipment shall be limited to less than 1,320,000 gallons or equivalent per twelve (12) consecutive month period, with compliance determined at the end of each month.

For the purpose of determining compliance with this limit:

- (1) Every 250 million cubic feet of natural gas shall be equivalent to one thousand (1000) gallons of refinery blend fuel oil.
- (2) Every 2.11 gallons of No. 2 fuel oil shall be equivalent to one (1) gallon of refinery blend fuel oil
- (3) Every ~~2.04~~ **1.02** gallons of waste oil shall be equivalent to one (1) gallon of refinery blend fuel oil.

The sulfur content of the No. 2 fuel oil ~~and waste oil~~ shall not exceed 0.5% by weight and the sulfur content of the refinery blend fuel oil **and waste oil** shall not exceed 1.0% by weight.

...

Additional Changes

IDEM, OAQ has decided to make additional revisions to the permit as described below, with deleted

language as ~~strikeouts~~ and new language **bolded**.

Change 1: The following language is revised per the Technical Support Document:

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

...

- (b) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the dryer/mixer burner shall be limited to 1.6 pounds per million Btu heat input ~~or a sulfur content of less than or equal to 1.5%~~ when using residual oil (including refinery blend fuel oil and waste oil).

...

Change 2: The following typographical error is corrected:

D.1.11 Particulate Emissions Control

- (a) In order to comply with Conditions D.1.2, D.1.3, D.1.4(b), and D.1.8(b), the knock-out box and baghouse controlling emissions from the dryer/mixer shall be in operation at all times that **the** dryer/mixer at this asphalt plant ~~are~~ **is** in operation.

...

Change 3: The signature block has been updated as follows:

Operation Permit No.: F 141-25539-00549	
Issued by: Matthew Stuckey, Deputy Branch Chief Permits Branch Office of Air Quality	Issuance Date: Expiration Date: September 22, 2008

IDEM Contact

- (a) Questions regarding this proposed Significant Permit Revision can be directed to Rebecca Jacobs 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) 234-5378 or toll free at 1-800-451-6027 extension 4-5378.
- (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

Appendix A: Emissions Calculations
Unlimited/Uncontrolled Waste Oil Combustion
Drum Dryer/Mixer

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

The following calculations determine the Unlimited/Uncontrolled emissions created from the waste oil combustion in the dryer/mixer

Maximum Capacity

Maximum Fuel Input Rate =	84	MMBtu/hr
Equivalent Used/Waste Oil Usage =	5,256,000	gal/yr
	1.00	% sulfur
	0.65	% ash
	0.40	% chlorine
	0.01	% lead

Unlimited/Uncontrolled Emissions from Combustion of Waste Oil

Criteria Pollutant	Emission Factor (lb/kgal)	Unlimited/Uncontrolled Potential to Emit (tons/yr)
PM	41.6	109.32
PM10	33.15	87.12
SO2	147.0	386.32
NOx	19.0	49.93
VOC	1.0	2.63
CO	5.0	13.14
Hazardous Air Pollutant		
HCl	26.4	69.38
Antimony	negl	negl
Arsenic	1.1E-01	2.89E-01
Beryllium	negl	negl
Cadmium	9.3E-03	2.44E-02
Chromium	2.0E-02	5.26E-02
Cobalt	2.1E-04	5.52E-04
Lead	0.55	1.4E+00
Manganese	6.8E-02	1.79E-01
Mercury	negl	negl
Nickel	1.1E-02	2.89E-02
Selenium	negl	negl
1,1,1-Trichloroethane		
1,3-Butadiene		
Acetaldehyde		
Acrolein		
Benzene		
Bis(2-ethylhexyl)phthalate	2.2E-03	5.78E-03
Dichlorobenzene	8.0E-07	2.10E-06
Ethylbenzene		
Formaldehyde		
Hexane		
Phenol	2.4E-03	6.31E-03
Toluene		
Total PAH Haps	3.9E-02	1.03E-01
Polycyclic Organic Matter		
Xylene		
Total HAPs		71.51

Methodology

Equivalent Waste Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
 Waste Oil Combustion Emission Factors from 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	CO = Carbon Monoxide
PM10 = Particulate Matter (<10 um)	HAP = Hazardous Air Pollutant
SO2 = Sulfur Dioxide	HCl = Hydrogen Chloride
NOx = Nitrous Oxides	PAH = Polyaromatic Hydrocarbon
VOC - Volatile Organic Compounds	

**Appendix A: Emissions Calculations
Limited Emission Summary**

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

Asphalt Plant Limitations

Annual Asphalt Production Limitation =	1,500,000	ton/yr
Natural Gas Limitation =	735.84	MMCF/yr
No. 2 Fuel Oil Limitation =	2,530,000	gal/yr, and 0.50 % sulfur
Refinery Blend Fuel Oil Limitation =	1,320,000	gal/yr, and 1.00 % sulfur
Used/Waste Oil Limitation =	750,000	gal/yr, and 1.00 % sulfur 0.65 % ash 0.400 % chlorine, 0.010 % lead
PM Dryer/Mixer Limitation =	0.186	lb/ton of asphlt production
PM10 Dryer/Mixer Limitation =	0.074	lb/ton of asphlt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphlt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphlt production
Cold Mix Asphalt VOC Usage Limitation =	50.0	tons/yr

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)							
	Criteria Pollutants						Hazardous Air Pollutants	
	PM	PM10	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP
Ducted Emissions								
Fuel Combustion (worst case)	15.60	12.43	99.00	36.79	2.02	30.91	11.02	9.90 (hydrogen chloride)
Dryer/Mixer	139.50	55.50	43.50	41.25	24.00	97.50	7.99	2.33 (formaldehyde)
Worst Case Emissions	139.50	55.50	99.00	41.25	24.00	97.50	11.02	9.90 (hydrogen chloride)
Fugitive Emissions								
Asphalt Load-Out, Silo Filling, On-Site Yard	0.83	0.83	0	0	12.85	2.16	0.21	0.07 (formaldehyde)
Hot Oil and Asphalt Heaters	0	0	0	0	1.2E-03	0.05	1.2E-03	7.4E-04 (naphthalene)
Material Storage Piles	1.07	0.37	0	0	0	0	0	0
Material Processing and Handling	4.85	2.29	0	0	0	0	0	0
Material Screening and Conveying	19.95	6.98	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	53.25	13.57	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	50.00	0	13.04	4.50 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	negl.	0	negl.	negl.
Total Fugitive Emissions	79.95	24.05	0	0	62.85	2.22	13.26	4.50 (xylenes)
Totals Limited/Controlled Emissions	219.45	79.55	99.00	41.25	86.85	99.72	24.27	9.90 (hydrogen chloride)

negl = negligible

**Appendix A: Emissions Calculations
Limited Emissions
Fuel Combustion**

**Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs**

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

Annual Asphalt Production Limitation =	1,500,000	ton/yr						
Natural Gas Limitation =	735.84	MMCF/yr						
No. 2 Fuel Oil Limitation =	2,530,000	gal/yr, and	0.50	% sulfur				
Refinery Blend Fuel Oil Limitation =	1,320,000	gal/yr, and	1.00	% sulfur				
Waste Oil Limitation =	750,000	gal/yr, and	1.00	% sulfur	0.65	% ash	0.400	% chloride, 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)	Refinery Blend Fuel Oil (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Refinery Blend Fuel Oil (tons/yr)	Used/ Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2	7	41.6	0.70	2.53	4.62	15.60	15.6
PM10	7.6	3.3	8.3	33.15	2.80	4.17	5.48	12.43	12.43
SO2	0.6	71.0	150.0	147.0	0.22	89.82	99.00	55.13	99.00
NOx	100	20.0	20.0	19.0	36.79	25.30	13.20	7.13	36.79
VOC	5.5	0.20	0.20	1.0	2.02	0.25	0.13	0.38	2.02
CO	84	5.0	5.0	5.0	30.91	6.33	3.30	1.88	30.91
Hazardous Air Pollutant									
HCl				26.4				9.90	9.90
Antimony			5.25E-03	negl			3.47E-03	negl	3.5E-03
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.1E-01	7.4E-05	7.08E-04	8.71E-04	4.13E-02	4.1E-02
Beryllium	1.2E-05	4.2E-04	2.78E-05	negl	4.4E-06	5.31E-04	1.83E-05	negl	5.3E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	9.3E-03	4.0E-04	5.31E-04	2.63E-04	3.49E-03	3.5E-03
Chromium	1.4E-03	4.2E-04	8.45E-04	2.0E-02	5.2E-04	5.31E-04	5.58E-04	7.50E-03	7.5E-03
Cobalt	8.4E-05		6.02E-03	2.1E-04	3.1E-05		3.97E-03	7.88E-05	4.0E-03
Lead	5.0E-04	1.3E-03	1.51E-03	0.55	1.8E-04	1.59E-03	9.97E-04	2.1E-01	0.21
Manganese	3.8E-04	8.4E-04	3.00E-03	6.8E-02	1.4E-04	1.06E-03	1.98E-03	2.55E-02	0.03
Mercury	2.6E-04	4.2E-04	1.13E-04		9.6E-05	5.31E-04	7.46E-05		5.3E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	1.1E-02	7.7E-04	5.31E-04	5.58E-02	4.13E-03	0.056
Selenium	2.4E-05	2.1E-03	6.83E-04	negl	8.8E-06	2.66E-03	4.51E-04	negl	2.7E-03
1,1,1-Trichloroethane			2.36E-04				1.56E-04		1.6E-04
1,3-Butadiene									0.0E+00
Acetaldehyde									0.0E+00
Acrolein									0.0E+00
Benzene	2.1E-03		2.14E-04		7.7E-04		1.41E-04		7.7E-04
Bis(2-ethylhexyl)phthalate				2.2E-03				8.25E-04	8.3E-04
Dichlorobenzene	1.2E-03			8.0E-07	4.4E-04			3.00E-07	4.4E-04
Ethylbenzene			6.36E-05				4.20E-05		4.2E-05
Formaldehyde	7.5E-02	6.10E-02	3.30E-02		2.8E-02	7.72E-02	2.18E-02		0.077
Hexane	1.8E+00				0.66				0.662
Phenol				2.4E-03				9.00E-04	9.0E-04
Toluene	3.4E-03		6.20E-03		1.3E-03		4.09E-03		4.1E-03
Total PAH Haps	negl		1.13E-03	3.9E-02	negl		7.46E-04	1.47E-02	1.5E-02
Polycyclic Organic Matter		3.30E-03				4.17E-03			4.2E-03
Xylene			1.09E-04				7.19E-05		7.2E-05
Total HAPs					0.69	0.09	0.10	10.20	11.02

Methodology

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

No. 2 and Refinery Blend 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

Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-4

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

Appendix A: Emissions Calculations
Fuel Equivalency Calculations
Fuel Combustion Units with Maximum Capacity < 100 MMBtu/hr

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

The following calculations determine the fuel equivalencies for each of the fuels as compared to refinery blend fuel oil (assumed similar to No. 4 fuel oil) for sulfur dioxide (SO₂):

Fuel Type	SO ₂ Equivalency					
	Limited Sulfur Content	Limited Sulfur Content Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units
Natural Gas	NA	NA	0.6	lb/MMCF	250.0	MMCF natural gas / 1000 gal refinery blend fuel oi
No. 2 Fuel Oil	0.50	% by weight	71.00	lb/kgal	2.11	gal No. 2 fuel oil / gal refinery blend fuel oi
Refinery Blend Fuel Oil (No. 4 Fuel Oil)	1.00	% by weight	150.00	lb/kgal	1.00	gal refinery blend fuel oil / gal refinery blend fuel o
Waste Oil	1.00	% by weight	147.00	lb/kgal	1.02	gal waste oil / gal refinery blend fuel oi

Methodology

Fuel Equivalency = [AP-42 Emission Factor for refinery blend fuel oil (lb/kgal)] / [AP-42 Emission Factor for any fuel type (lb/kgal or lb/MMCF]

Sources of AP-42 Emission Factors for fuel combustion:

- Natural Gas (boiler < 100 MMBtu/hr): AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1 and 1.4-2
- No. 2 and No.4 (industrial boiler < 100 MMBtu/hr) AP-42 Chapter 1.3 (dated 9/98), Table 1.3-1
- Waste Oil (small boiler): AP-42 Chapter 1.11 (dated 10/96), Table 1.11-2

Indiana Department of Environmental Management Office of Air Quality

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

Source Description and Location

Source Name:	Brooks Construction Company, Inc.
Source Location:	18130 U.S. Highway 20, Goshen, IN 46526
County:	Elkhart
SIC Code:	2951
Operation Permit No.:	F039-17738-03325
Operation Permit Issuance Date:	July 14, 2004
Significant Permit Revision No.:	F039-25540-03325
Permit Reviewer:	Rebecca Jacobs

On November 14, 2007, the Office of Air Quality (OAQ) received an application from Brooks Construction Company related to a modification to an existing portable hot mix asphalt plant.

Existing Approvals

The source was issued FESOP Renewal No. F039-17738-03325 on July 14, 2004. The source has since received Significant Permit Revision No. F039-21827-03325, issued on January 19, 2006.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM10	Attainment
PM2.5	Attainment
SO ₂	Attainment
NO ₂	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Ozone Standards

- (1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, St. Joseph as attainment for the 8-hour ozone standard.
- (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.

- (4) 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. Elkhart 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) Elkhart County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.
- (c) Other Criteria Pollutants
- Elkhart County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Status of the Existing Source

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

Process/Emission Unit	Potential To Emit of the Entire Source (tons/year)							
	PM	PM10	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Dryer/Mixer and Fuel Combustion	244.40	30.20	96.85	28.07	13.48	30.91	11.46	4.07 (formaldehyde)
Material Processing and Handling, Storage Piles, & Paved Roads	4.26	1.82	3.05	0.88	86.42	0.52	negl.	negl.
Total PTE of Entire Source	248.66	32.02	99.90	28.95	99.90	31.43	11.46	4.07 (formaldehyde)
Title V Major Source Thresholds	NA	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	NA	NA
Emission Offset Major Source Thresholds	NA	100	100	100	100	100	NA	NA
negl. = negligible								
These emissions are based upon FESOP SPR No. 039-21827-03325, issued on January 19, 2006.								

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of

- the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (b) This existing source, if relocated to a county that is nonattainment for any regulated pollutant, is not a major stationary source under Emission Offset (326 IAC 2-3), because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or more.
 - (c) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the Permittee has accepted limits on HAPs emissions to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Brooks Construction Company on November 14, 2007, relating to the use of waste oil as a backup fuel in the dryer/mixer burner.

The following is the modified emission unit and pollution control device: One (1) drum dryer/mixer, constructed after June 11, 1973, identified as Emissions Unit No. 2, with a maximum capacity of 300 tons per hour, equipped with one (1) 84 MMBtu/hr natural gas-fired burner, using No. 2 distillate fuel oil, refinery blend fuel oil, and waste oil as back-up fuels, controlled by one (1) baghouse with a knockout box, exhausting to Stack SV1.

- (a) A hot mix asphalt production limit was added as a result of adding the option to burn waste oil as a backup fuel to keep the Carbon Monoxide (CO) emissions below the Title V major source threshold of 100 tons per year.
- (b) Upon further review of the permit, OAQ determined that the permit required revising for the following reasons:
 - (1) VOC and CO emissions for hot mix asphalt plants were overlooked from the previous review and needed to be included in the source's potential to emit (PTE) which resulted in VOC and CO emission limitations being added to the permit to maintain their FESOP status.
 - (2) Fugitive volatile organic compound (VOC), hazardous air pollutant (HAP), and particulate matter (PM) emissions from Silo Filling/Storage, Load Out, On-Site Yard, and Storage Tanks were overlooked from the previous review and needed to be included in the source's potential to emit (PTE).
 - (3) Fugitive PM emissions for paved and unpaved roads have been included in the PTE calculations, since the source is portable and could potentially have both.
 - (4) The cold mix asphalt VOC limit was also lowered to offset the VOC emissions from burning waste oil at the asphalt plant.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – FESOP Revision

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

Process/Emission Unit	PTE of Proposed Revision (tons/year)							
	PM	PM10*	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Waste Oil Combustion in Dryer/Mixer Burner	109.32	87.12	193.16	49.93	2.63	13.14	71.51	69.38 hydrogen chloride
* 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.								

- (a) This FESOP is being revised through a FESOP Significant Permit Revision pursuant to 326 IAC 2-8-11.1 (f)(1)(G), because the revision has the potential to emit (PTE) at greater than or equal to ten tons per year of hydrogen chloride (HAP) and twenty-five tons per year of any combination of hazardous air pollutants.
- (b) This FESOP is being revised through a FESOP Significant Permit Revision pursuant to 326 IAC 2-8-11.1(f)(1)(E)(ii) and (iii), because the revision has the potential to emit (PTE) greater than or equal to twenty-five (25) tons per year each of PM, PM₁₀, sulfur dioxide (SO₂), and nitrogen oxides (NO_x).
- (c) This FESOP is being revised through a FESOP Significant Permit Revision pursuant to 326 IAC 2-8-11.1(g)(2) because it involves adjustment to the existing source-wide emissions limitations to maintain the FESOP status of the source (see PTE of the Entire Source After The Issuance of the FESOP Revision Section).

PTE of the Entire Source After Issuance of the FESOP Revision

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

Process/Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)							
	PM	PM10*	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Dryer/Mixer and Fuel Combustion	244.40 139.50	30.20 55.50	96.85 99.00	28.07 41.25	13.48 24.00	30.94 97.50	41.46 11.02	9.90 hydrogen chloride
Asphalt Load-Out , Silo Filling, & Onsite Yard	0.83	0.83	0	0	12.85	2.16	0.21	0.07 formaldehyde
Hot Oil and Asphalt Heaters (fugitives)	0	0	0	0	1.2E-03	0.05	1.2E-03	7.4E-04 naphthalene
Material Storage Piles	0.72 1.07	0.25 0.37	0	0	0	0	0	0
Material Processing and Handling	2.73 4.88	4.30 2.31	0	0	0	0	0	0
Material Screening and Conveying	20.08	7.03	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	0.67 53.61	0.13 13.66	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	97.00 50.00	0	13.04	4.50 xylenes
Volatile Organic Liquid Storage Vessels	0	0	0	0	negl.	0	negl.	negl.
Total PTE of Entire Source	248.66 219.45	32.02 79.55	99.90 99.00	28.95 41.25	99.90 86.85	31.43 99.72	41.46 24.27	9.90 hydrogen chloride
Title V Major Source Thresholds	NA	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	NA	NA
Emission Offset Major Source Thresholds	NA	100	100	100	100	100	NA	NA
negl. = negligible * US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.								

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

Process/Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)							
	PM	PM10*	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Dryer/Mixer and Fuel Combustion	139.50	55.50	99.00	41.25	24.00	97.50	11.02	9.90 hydrogen chloride
Asphalt Load-Out , Silo Filling, & Onsite Yard	0.83	0.83	0	0	12.85	2.16	0.21	0.07 formaldehyde
Hot Oil and Asphalt Heaters (fugitives)	0	0	0	0	1.2E-03	0.05	1.2E-03	7.4E-04 naphthalene
Material Storage Piles	1.07	0.37	0	0	0	0	0	0
Material Processing and Handling	4.88	2.31	0	0	0	0	0	0
Material Screening and Conveying	20.08	7.03	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	53.61	13.66	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	50.00	0	13.04	4.50 xylenes
Volatile Organic Liquid Storage Vessels	0	0	0	0	negl.	0	negl.	negl.
Total PTE of Entire Source	219.45	79.55	99.00	41.25	86.85	99.72	24.27	9.90 hydrogen chloride
Title V Major Source Thresholds	NA	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	NA	NA
Emission Offset Major Source Thresholds	NA	100	100	100	100	100	NA	NA
negl. = negligible * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.								

(a) FESOP Status

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

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 SO₂ emissions from the dryer/mixer burner shall be limited as follows:
 - (A) The total usage of refinery blend fuel oil and refinery blend fuel oil equivalents for the dryer/mixer burner and all other fuel combustion equipment shall be limited to less than 1,320,000 gallons or equivalent per twelve (12) consecutive month period, with compliance determined at the end of each month.

For the purpose of determining compliance with this limit:

- (i) Every 250 million cubic feet of natural gas shall be equivalent to one thousand (1000) gallons of refinery blend fuel oil. However, the natural gas usage shall in no case exceed 735.84 million cubic feet per twelve (12) consecutive month period.
- (ii) Every 2.11 gallons of No. 2 fuel oil shall be equivalent to one (1) gallon of refinery blend fuel oil. However, the No. 2 fuel oil usage shall in no case exceed 2,530,000 gallons per twelve (12) consecutive month period.
- (iii) Every 2.04 gallons of waste oil shall be equivalent to one (1) gallon of refinery blend fuel oil. However, the waste oil usage shall in no case exceed 750,000 gallons per twelve (12) consecutive month period.

(B) The sulfur content of the No. 2 fuel oil and waste oil each shall not exceed 0.5% by weight.

(C) The sulfur content of the refinery blend fuel oil shall not exceed 1.0% by weight.

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

See Appendix A for the detailed calculations.

(2) Pursuant to 326 IAC 2-8-4, the emissions of PM₁₀, CO, and VOC from the dryer/mixer shall be limited as follows:

- (A) The asphalt production rate shall be limited to less than 1,500,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (B) PM₁₀ emissions from the dryer/mixer shall be limited to less than 0.074 pounds of PM₁₀ per ton of asphalt produced.
- (C) CO emissions from the dryer/mixer shall be limited to less than 0.130 pounds of CO per ton of asphalt produced.
- (D) VOC emissions from the dryer/mixer shall be limited to less than 0.032 pounds of VOC per ton of asphalt produced.

Compliance with these limits, combined with the potential to emit PM₁₀, CO, and VOC from all other emission units at this source, will limit the source-wide potential to emit PM₁₀, CO, and VOC, each to less than 100 tons per 12 consecutive month period, and render 326 IAC 2-7 (Part 70 Permit Program), 326 IAC 2-2 (PSD), and 326 IAC 2-3 (Emission Offset) not applicable. Compliance with this limit will also render the requirements of 326 IAC 2-1.1-5 (Nonattainment New Source Review) not applicable for PM_{2.5} emissions when located in a county that is nonattainment for PM_{2.5}.

See Appendix A for the detailed calculations.

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

- (A) The chlorine content of the waste oil used in the dryer/mixer burner and all other fuel combustion equipment shall not exceed four tenths of a percent (0.40%) by weight.
- (B) The usage of waste oil used in the dryer/mixer burner and all other fuel combustion equipment shall be limited to less than 750,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (C) The HCl emissions from the dryer/mixer burner shall be limited to less than 26.4 pounds of HCl per 1,000 gallons of waste oil burned.

Compliance with these limits, combined with the potential to emit HAP from all other emission units at this source, will limit the source-wide potential to emit HCl to less than 10 tons per year and combined HAPs to less than 25 tons per year and render 326 IAC 2-7 (Part 70) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

See Appendix A for the detailed calculations.

- (4) The VOC emissions from any liquid binder used in asphalt production shall not exceed 50.0 tons per year. The liquid binder used in asphalt production shall be limited as follows:
 - (1) Cutback asphalt rapid cure liquid binder usage shall not exceed 52.63 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. (Based on 95% volatilization)
 - (2) Cutback asphalt medium cure liquid binder usage shall not exceed 71.43 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. (Based on 70% volatilization)
 - (3) Cutback asphalt slow cure liquid binder usage shall not exceed 200.0 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. (Based on 25% volatilization)
 - (4) Emulsified asphalt with solvent liquid binder usage shall not exceed 102.04 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. (Based on 49% volatilization)
 - (5) Emulsified asphalt with fuel oil liquid binder usage shall not exceed 714.29 tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. The fuel oil diluent shall be limited to 1.5% of the total weight of the emulsified asphalt mix. (Based on 7% volatilization)
 - (6) The VOC solvent allotments in (1) through (5) above shall be adjusted when more than one type of binder is used per twelve (12) month consecutive period with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder (or for a type of binder not listed above), the Permittee shall use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment ratio listed in the table that follows. [The adjustment ratio is equal to 1/(percent of initial VOC in solvent that volatilizes or is emitted from the final product)]

Tons of solvent contained in binder/ Adjustment ratio = tons of VOC emitted

Or

Tons of solvent contained in binder x Percent volatilization = tons of VOC emitted

Type of binder	Adjustment ratio
Cutback Asphalt Rapid Cure (95% volatilization)	1.05
Cutback Asphalt Medium Cure (70% volatilization)	1.42
Cutback Asphalt Slow Cure (25% volatilization)	4.00
Emulsified Asphalt (49% volatilization)	2.04
Emulsified Asphalt (7% volatilization)	14.28

The equivalent total tons of VOC emitted from the combined liquid binders shall be less than 50.0 tons per twelve consecutive month period with compliance determined at the end of each month.

Compliance with these limits, combined with the potential to emit VOC and HAP from all other emission units at this source, shall limit the source-wide potential to emit VOC to less than 100 tons per 12 consecutive month period, each single HAP to less than ten (10) tons per 12 consecutive month period, and combined HAPs to less than twenty-five (25) tons per 12 consecutive month period and render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

See Appendix A for detailed calculations.

(b) PSD Minor Source

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

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

- (1) The asphalt production rate shall be limited to less than 1,500,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) PM emissions from the dryer/mixer shall be limited to less than 0.186 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, will limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

See Appendix A for detailed calculations.

(c) Emission Offset Minor Source

Assuming this portable source was to relocate to a county that was classified as nonattainment for a regulated pollutant, this modification to an existing Emission Offset minor stationary source will

not change the Emission Offset minor status, because the potential to emit of all nonattainment regulated pollutants from the entire source will continue to be limited to less than the Emission Offset major source threshold levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Portable Source

- (a) **Source Location**
This is a portable source and its current location is 18130 U.S. Highway 20, Goshen, IN 46526.
- (b) **PSD and Emission Offset Requirements**
This portable source is allowed to operate in all areas of Indiana except Lake County, LaPorte County, Porter County, and in areas that are designated as extreme, severe, or serious non-attainment for any National Ambient Air Quality Standard. This determination is based on the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-3 (Emission Offset), 326 IAC 2-6 (Emission Reporting), 326 IAC 5-1 (Opacity Limitations), and 326 IAC 6.8-11 (Lake County: Particulate Matter Contingency Measures).

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

There are no New Source Performance Standards (NSPS)(40 CFR Part 60) included for this proposed revision. The source shall continue to comply with the applicable federal requirements and permit conditions contained in FESOP Renewal No. 039-17738-03325.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision. The source shall continue to comply with the applicable federal requirements and permit conditions contained in FESOP Renewal No. 039-17738-03325.

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 Determination

The following state rules are applicable to the proposed revision:

- (a) **326 IAC 2-8-4 (FESOP)**
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP). See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (b) **326 IAC 2-2 (Prevention of Significant Deterioration(PSD))**
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will still be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (c) **326 IAC 2-3 (Emission Offset) and (for PM_{2.5} nonattainment counties) 326 IAC 2-1.1-5**

(Nonattainment New Source Review)

Assuming this portable source was to relocate to a county that was classified as nonattainment for a regulated pollutant, this modification to an existing Emission Offset minor stationary source will not change the Emission Offset minor status, because the potential to emit of all nonattainment regulated pollutants from the entire source will still be less than the Emission Offset major source threshold levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.

Assuming that PM10 emissions represent PM2.5 emissions, compliance with the PM10 limit shall also limit the source-wide potential to emit of PM2.5 to less than 100 tons per 12 consecutive month period and shall render 326 IAC 2-1.1-5 (Nonattainment New Source Review) not applicable. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.

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

The unlimited potential to emit of HCl from burning waste oil in the dryer/mixer burner is greater than ten (10) tons per year. However, the source shall limit the potential to emit of HCl from the dryer/mixer to less than ten (10) tons per year. Therefore, the proposed revision is not subject to the requirements of 326 IAC 2-4.1. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.

(e) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)

The dryer/mixer burner is subject to 326 IAC 7-1.1, because it has potential SO₂ emissions of greater than 25 tons per year (limited potential emissions are 99.3 tons per year). Pursuant to this rule, sulfur dioxide emissions from the dryer/mixer burner shall be limited to five-tenths (0.5) pounds per million Btu for distillate oil combustion (including No. 2 fuel oil) and one and six-tenths (1.6) pounds per million Btu heat input for residual oil (including refinery blend fuel oil and waste oil) combustion.

(f) 326 IAC 8-1-6 (BACT)

The dryer/mixer has a limited potential to emit of 24.16 tons per year of VOC, based on a limited throughput of 1,500,000 tons per twelve (12) consecutive month period and a VOC limit of 0.032 pound of VOC per ton of hot mix asphalt produced. Compliance with these limits will render the requirements of 326 IAC 8-1-6 not applicable to the dryer/mixer.

Compliance Determination, Monitoring and Testing Requirements
--

The following compliance determination and compliance monitoring requirements are being added to the FESOP as a result of this modification:

The Permittee shall demonstrate that the chlorine content of the fuel used does not exceed four tenths of a percent (0.40%) by weight when operating on waste oil, by providing vendor analysis of fuel delivered accompanied by a vendor certification.

Proposed Changes

The following changes listed below are due to the proposed revision or additional changes made upon further review by IDEM, OAQ.

(a) Section A.1 is revised as follows:

- (1) IDEM has begun implementing a new procedure and will no longer list the name or title of the Authorized Individual (A.I.) in the permit document.
- (2) The Source Location Status is revised to indicate that Elkhart County is now in attainment

for the 8-hour ozone standard.

- (3) The Source Status is revised to include Nonattainment New Source Review.
- (b) To provide consistency and clarity throughout the permit the term "aggregate drum mix dryer" has been revised to "drum dryer/mixer".
- (c) Section A.2 has been modified to include waste oil as a back-up fuel.
- (d) Section B.3 includes the FESOP permit number and the new expiration date for a ten year term.
- (e) All occurrences of "an" authorized individual have been revised to "the" authorized individual.
- (f) All occurrences of IDEM mailing addresses have been revised to include a mail code (MC) as follows:
- | | |
|---|---------------------------|
| Asbestos Section: | MC 61-52 IGCN 1003 |
| Compliance Branch: | MC 61-53 IGCN 1003 |
| Permits Branch: | MC 61-53 IGCN 1003 |
| Technical Support and Modeling Section: | MC 61-50 IGCN 1003 |
- (g) All occurrences of the Compliance Data Branch telephone and facsimile numbers have been revised to 317-233-~~5674~~ **0178** and 317-233-~~5967~~ **6865**, respectively.
- (h) Section C.19 has been updated to prohibit without a permit modification the relocation to Lake, LaPorte, and Porter counties and areas in Indiana that are designated as extreme, severe, or serious non-attainment for any National Ambient Air Quality Standard.
- (i) Section D.1 has been modified to include waste oil as a back-up fuel.
- (j) Section D.1.4 has been modified to include a hot mix production limit as a result of adding the option to burn waste oil as a backup fuel to keep the carbon monoxide emissions below the Title V major source threshold of 100 tons per year. The PM₁₀ limit remains unchanged; however VOC and CO limits were necessary to maintain the FESOP status of the source.
- (k) Section D.1.6 has been revised to replace "fuel oil" with "distillate oil" which includes No. 2 fuel oil and to clarify that residual oil includes refinery blend fuel oil and waste oil.
- (l) Section D.1.7 has been replaced with new fuel equivalencies. Also the VOC emissions limits for any liquid binder used in asphalt production have been lowered to accommodate the VOC emissions from burning waste oil as a back-up fuel in order to maintain the FESOP status of the source.
- (m) Section D.1.9 has been changed from Preventive Maintenance Plan to Hazardous Air Pollutants (HAP). Limits for chlorine content, waste oil usage, and hydrogen chloride (HCl) emissions have been added to maintain the FESOP status of the source so that HCl emissions (HAP) do not exceed 10 tons/year or the combined total HAPs do not exceed 25 tons/year.
- (n) All Sections following D.1.9 were re-numbered.
- (o) Section D.1.13 has been modified to include waste oil as a back-up fuel.
- (p) Section D.1.15 has been modified to include vendor analysis of waste oil fuel as delivered.
- (q) Section D.1.16 has been modified to require the visible emission notations be taken at the

baghouse stack instead of the burner stack of the drum dryer/mixer.

- (r) Section D.1.19 Record Keeping Requirements have been modified to include daily records when a visible emission notation or pressure drop reading is not taken and the respective reasons. The average heating value of waste oil must be recorded and records of the sulfur content of the waste oil as delivered and certified by the supplier must be maintained. Records of the fuel quantities and types used at the drum dryer/mixer burner and all other fuel combustion equipment, the equivalent sulfur dioxide and hydrogen chloride emissions and the hot mix asphalt production must be maintained.
- (s) Section D.1.20 Reporting Requirements have been modified to include certified quarterly reporting by an authorized individual of the asphalt production rate, fuel usage and equivalencies for the drum dryer/mixer and all other fuel combustion equipment, liquid binder usage and waste oil usage.
- (t) The reporting forms have been updated and an Asphalt Production form has been added.

Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

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

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

Authorized Individual:	Plant Operations Superintendent
Source Address:	18130 U.S. Highway 20, Goshen, Indiana, 46526
Mailing Address:	P.O. Box 9560, Fort Wayne, Indiana, 46899
General Source Phone:	(260) 478-1990
SIC Code:	2951
Initial County Location:	Elkhart
Source Location Status:	Non-attainment for ozone under the 8-hour standard Attainment for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD, and Emission Offset, and Nonattainment New Source Review Rules Not 1 of 28 Source Categories

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

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

- (a) One (1) ~~aggregate drum mix dryer/mixer~~, constructed after June 11, 1973, identified as Emissions Unit No. 2, with a maximum capacity of 300 tons per hour, equipped with one (1) 84 MMBtu/hr natural gas-fired burner, using No. 2 distillate fuel oil, ~~and~~ refinery blend fuel oil, **and waste oil** as back-up fuels, controlled by one (1) baghouse with a knockout box, exhausting to Stack SV1.

...

B.3 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5]

This permit, **F039-17738-03325**, is issued for a fixed term of ~~five (5)~~ **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.

...

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

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that

IDEM, OAQ, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by ~~an the~~ "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit.

...

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

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

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

...

B.13 Emergency Provisions [326 IAC 2-8-12]

...

- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone No.: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section) or,
Telephone No.: 317-233-5674-**0178** (ask for Compliance Section)
Facsimile No.: 317-233-5967-**6865**

...

Portable Source Requirement

C.19 Relocation of Portable Sources [326 IAC 2-14-4]

- (a) ~~This permit is approved for operation in all areas of Indiana except in severe nonattainment areas for ozone (at the time of this permit's issuance these areas were Lake and Porter Counties). This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2, and Emission Offset requirements in 326 IAC 2-3.~~ **This portable source is allowed to operate in all areas of Indiana except Lake County, LaPorte County, Porter County, and in areas that are designated as extreme, severe, or serious non-attainment for any National Ambient Air Quality Standard. This determination is based on the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-3 (Emission Offset), 326 IAC 2-6 (Emission Reporting), 326 IAC 5-1 (Opacity Limitations), and 326 IAC 6.8-11 (Lake County: Particulate Matter Contingency Measures).** Prior to locating in ~~any severe nonattainment area~~ **Lake County, LaPorte County, Porter County, and in area that is designated as extreme, severe, or serious non-attainment for any National Ambient Air Quality Standard,** the Permittee must submit a request and obtain a permit modification.

...

SECTION D.1 FACILITY OPERATION CONDITIONS

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

- (a) One (1) ~~aggregate drum mix dryer~~ **dryer/mixer**, constructed after June 11, 1973, identified as Emissions Unit No. 2, with a maximum capacity of 300 tons per hour, equipped with one (1) 84 MMBtu/hr natural gas-fired burner, using No. 2 distillate fuel oil, ~~and refinery blend fuel oil,~~ **and waste oil** as back-up fuels, controlled by one (1) baghouse with a knockout box, exhausting to Stack SV1.

...

...
D.1.4 Particulate Matter 10 Micron (PM₁₀), **Volatile Organic Compounds (VOC), and Carbon Monoxide (CO)** [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-3][326 IAC 2-1.1-5]

~~Pursuant to 326 IAC 2-8-4, particulate matter 10 microns (PM₁₀) emissions from the aggregate mixer dryer shall not exceed 0.074 pounds of PM₁₀ per ton of asphalt produced when operating at a maximum process rate of 300 tons of asphalt per hour. This is equivalent to 97.2 tons of PM₁₀ per year. Compliance with this limit makes the Part 70 rules (326 IAC 2-7), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-3 (Emission Offset) not applicable. Compliance with this limit will also render the requirements of Nonattainment New Source Review not applicable for PM_{2.5} emissions when located in a county that is nonattainment for PM_{2.5}.~~

Pursuant to 326 IAC 2-8-4, the emissions of PM₁₀, CO, and VOC from the dryer/mixer shall be limited as follows:

- (a) **The asphalt production rate shall be limited to less than 1,500,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.**
- (b) **PM₁₀ emissions from the dryer/mixer shall be limited to less than 0.074 pounds of PM₁₀ per ton of asphalt produced.**
- (c) **CO emissions from the dryer/mixer shall be limited to less than 0.130 pounds of CO per ton of asphalt produced.**
- (d) **VOC emissions from the dryer/mixer shall be limited to less than 0.032 pounds of VOC per ton of asphalt produced.**

Compliance with these limits, combined with the potential to emit PM₁₀, CO, and VOC from all other emission units at this source, will limit the source-wide potential to emit PM₁₀, CO, and VOC, each to less than 100 tons per 12 consecutive month period and render 326 IAC 2-7 (Part 70 Permit Program), and 326 IAC 2-2 (PSD), and 326 IAC 2-3 (Emission Offset) not applicable. Compliance with this limit will also render the requirements of 326 IAC 2-1.1-5 (Nonattainment New Source Review) not applicable for PM_{2.5} emissions when located in a county that is nonattainment for PM_{2.5}.

...

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

- (a) Pursuant to 326 IAC 7-1.1 (SO₂ Emissions Limitations), the SO₂ emissions from the ~~aggregate dryer/mixer burner at the asphalt plant shall not exceed five-tenths (0.5) pound per million Btu heat input while combusting fuel oil~~ **distillate oil (including No. 2 fuel oil)**. This is equivalent to a maximum fuel oil sulfur content of five one-hundredths percent (0.5%) while combusting No. 2 fuel oil.
- (b) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions

from the ~~aggregate dryer/mixer~~ burner shall be limited to 1.6 pounds per million Btu heat input ~~or a sulfur content of less than or equal to 1.5%~~ when using residual oil **(including refinery blend fuel oil and waste oil)**.

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

D.1.7 FESOP Limits for SO₂ and VOC [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-3]

- ~~(a) the sulfur content of the No. 2 distillate fuel oil used in the 84.0 MMBtu per hour burner for the aggregate dryer shall not exceed 0.5 percent.~~
- ~~(b) the sulfur content of the refinery blend fuel oil used in the 84.0 MMBtu per hour burner for the aggregate dryer shall not exceed 1.0 percent.~~
- ~~(c) The total input of refinery blend fuel oil with a maximum sulfur content of 1.0% and refinery blend fuel oil equivalents to the 84 million Btu burner to the aggregate drum mix dryer shall be limited to less than 1,291,333 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. These limits will limit the SO₂ emissions from the aggregate drum mix dryer to less than 96.85 tons per twelve (12) consecutive month period. Compliance with this condition makes 326 IAC 2-7 (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.~~
- ~~(d) For purposes of determining compliance, the following shall apply:~~
- ~~(1) every 1,000 gallons of No. 2 fuel oil burned in the 84.0 MMBtu per hour aggregate dryer burner shall be equivalent to 460.1 gallons of refinery blend fuel oil based on SO₂ emissions and a maximum No. 2 fuel oil sulfur content of 0.5% such that the total gallons of refinery blend fuel oil and refinery blend fuel oil equivalent input does not exceed the limit specified;~~
- ~~(2) every million cubic feet (MMCF) of natural gas burned in the 84.0 MMBtu per hour aggregate dryer burner shall be equivalent to 4.0 gallons of refinery blend fuel oil based on SO₂ emissions such that the total gallons of refinery blend fuel oil and refinery blend fuel oil equivalent input does not exceed the limit specified.~~

Pursuant to 326 IAC 2-8-4, the SO₂ emissions from the dryer/mixer burner and all other fuel combustion equipment shall be limited as follows:

- (a) The total usage of refinery blend fuel oil and refinery blend fuel oil equivalents for the dryer/mixer burner all other fuel combustion equipment shall be limited to less than 1,320,000 gallons or equivalent per twelve (12) consecutive month period, with compliance determined at the end of each month.**

For the purpose of determining compliance with this limit:

- (1) Every 250 million cubic feet of natural gas shall be equivalent to one thousand (1000) gallons of refinery blend fuel oil. However, the natural gas usage shall in no case exceed 735.84 million cubic feet per twelve (12) consecutive month period.**
- (2) Every 2.11 gallons of No. 2 fuel oil shall be equivalent to one (1) gallon of refinery blend fuel oil. However, the No. 2 fuel oil usage shall in no case exceed 2,530,000 gallons per twelve (12) consecutive month period.**
- (3) Every 2.04 gallons of waste oil shall be equivalent to one (1) gallon of refinery blend fuel oil. However, the waste oil usage shall in no case**

exceed 750,000 gallons per twelve (12) consecutive month period.

- (b) The sulfur content of the No. 2 fuel oil and waste oil shall not exceed 0.5% by weight each.**
- (c) The sulfur content of the refinery blend fuel oil shall not exceed 1.0% by weight.**

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

- (ed) The VOC emissions from any liquid binder used in asphalt production shall not exceed ~~86.42~~ **50.0** tons per year. The liquid binder used in asphalt production shall be limited as follows:**

- (1) Cutback asphalt rapid cure liquid binder usage shall not exceed ~~90.97~~ **52.63** tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. (Based on 95% volatilization)**
- (2) Cutback asphalt medium cure liquid binder usage shall not exceed ~~123.46~~ **71.43** tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. (Based on 70% volatilization)**
- (3) Cutback asphalt slow cure liquid binder usage shall not exceed ~~345.68~~ **200.0** tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. (Based on 25% volatilization)**
- (4) Emulsified asphalt with solvent liquid binder usage shall not exceed ~~176.37~~ **102.04** tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. (Based on 49% volatilization)**
- (5) Emulsified asphalt with fuel oil liquid binder usage shall not exceed ~~1234.57~~ **714.29** tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month. The fuel oil diluent shall be limited to 1.5% of the total weight of the emulsified asphalt mix. (Based on 7% volatilization)**
- (6) The VOC solvent allotments in (1) through (5) above shall be adjusted when more than one type of binder is used per twelve (12) month consecutive period with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder (or for a type of binder not listed above), the Permittee shall use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment ratio listed in the table that follows. [The adjustment ratio is equal to 1/(percent of initial VOC in solvent that volatilizes or is emitted from the final product)]**

Tons of solvent contained in binder/ Adjustment ratio = tons of VOC emitted

Or

Tons of solvent contained in binder x Percent volatilization = tons of VOC emitted

Type of binder	Tons VOC solvent	Adjustment ratio	Tons VOC emitted
Cutback Asphalt Rapid Cure (95% volatilization)		1.05	
Cutback Asphalt Medium Cure (70% volatilization)		1.42	
Cutback Asphalt Slow Cure (25% volatilization)		4.00	
Emulsified Asphalt (49% volatilization)		2.04	
Emulsified Asphalt (7% volatilization)		14.28	

The equivalent total tons of VOC emitted from the combined liquid binders shall be less than ~~86.42~~ **50.0** tons per twelve consecutive month period with compliance determined at the end of each month.

~~Compliance with this condition makes 326 IAC 2-7 (Part 70), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-3 (Emission Offset) not applicable.~~

Compliance with these limits, combined with the VOC emissions from other units at the source, will limit source-wide VOC emissions to less than 100 tons per twelve (12) consecutive month period and will render 326 IAC 2-7 (Part 70 Permit Program), 326 IAC 2-2 (PSD), and 326 IAC 2-3 (Emission Offset) not applicable.

Compliance with these limits, combined with the potential to emit VOC and HAP from all other emission units at this source, shall limit the source-wide potential to emit VOC to less than 100 tons per 12 consecutive month period, each single HAP to less than ten (10) tons per 12 consecutive month period, and combined HAPs to less than twenty-five (25) tons per 12 consecutive month period and render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

D.1.8 Particulate Matter (PM) [326 IAC 2-2]

~~Particulate matter emissions from the aggregate mixing and drying operation shall not exceed 0.186 pound of PM per ton of asphalt mix. This is equivalent to a PM emission limit of 55.8 pounds per hour based on a maximum throughput of 300 tons of asphalt mix per hour. Based on 8,760 hours of operation per 12 consecutive month period, this limits PM emissions from the aggregate mixing and drying operation to 244.4 tons per year for a source-wide total potential to emit of less than 250 tons per year. Therefore, compliance with this limit will render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.~~

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 be limited to less than 1,500,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.**
- (b) PM emissions from the dryer/mixer shall be limited to less than 0.186 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, will limit the source-wide potential to emit of PM to less than 250 tons per 12 consecutive month period and render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.9 Hazardous Air Pollutants (HAP) [326 IAC 2-8-4][326 IAC 2-4.1]

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

- (a) The chlorine content of the waste oil used in the dryer/mixer burner all other fuel combustion equipment shall not exceed four tenths of a percent (0.40%) by weight.
- (b) The usage of waste oil used in the dryer/mixer burner all other fuel combustion equipment shall be limited to less than 750,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) The HCl emissions from the dryer/mixer burner shall be limited to less than 26.4 pounds of HCl per 1,000 gallons of waste oil burned.

Compliance with these limits, combined with the potential to emit HAP from all other emission units at this source, will limit the source-wide potential to emit HCl to less than 10 tons per year and combined HAPs to less than 25 tons per year and render 326 IAC 2-7 (Part 70) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

D.1.910 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements

D.1.4011 Particulate Emissions Control

- (a) In order to comply with Conditions D.1.2, D.1.3, D.1.4(b), and D.1.8(b), the knock-out box and baghouse controlling emissions from the ~~aggregate drum mix dryer/mixer and the dryer burner~~ shall be in operation at all times that the ~~aggregate drum mix dryer/mixer and/or the dryer burner~~ at this asphalt plant ~~are~~ 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.1.4412 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.1.3, D.1.4(b), and D.1.8(b), the Permittee shall perform PM and PM10 testing of the baghouse controlling the dryer/mixer utilizing methods as approved by the Commissioner, at least once every five years from October 12, 2004, the date of the most recent valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C - Performance Testing.

D.1.4213 Sulfur Dioxide (SO₂) Emissions and Sulfur Content

Compliance with Conditions D.1.6 and D.1.7(a), (b) and (c) shall be determined utilizing one of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million Btu heat input when burning No. 2 distillate fuel oil and that the sulfur dioxide emissions do not exceed 1.6 pounds per million Btu heat input when burning refinery blend fuel oil **or waste oil** by:
- (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 84 MMBtu per hour burner for the ~~aggregate-dryer~~**/mixer**, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

D.1.1314 VOC Emissions

Compliance with Condition D.1.7(~~ed~~) shall be demonstrated each month based on the amount of fuel oil diluent used in the production of cold mix emulsified asphalt for the twelve (12) consecutive month period.

D.1.15 Hydrogen Chloride (HCl) Emissions and Chlorine Content

In order to comply with Conditions D.1.9(a) and D.1.9(c), the Permittee shall demonstrate that the chlorine content of the fuel used for the dryer/mixer burner all other fuel combustion equipment does not exceed four tenths of a percent (0.40%) by weight, when operating on waste oil, by providing a vendor analysis of fuel delivered accompanied by a vendor certification.

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

D.1.1416 Visible Emissions Notations

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

- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps 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.1.1517 Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the ~~aggregate dryer/mixer~~ burner at least once per day when the ~~aggregate dryer/mixer~~ is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.
- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.1618 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission 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 Requirement [326 IAC 2-8-4(3)][326 IAC 2-8-16]

D.1.1719 Record Keeping Requirements

- (a) To document compliance with Condition D.1.1416, the Permittee shall maintain records of visible emission notations of the ~~aggregate mixer dryer/mixer and dryer burner~~ baghouse stack, the transfer points, and the conveyor exhausts once per day. **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the plant did not operate that day).**
- (b) To document compliance with Condition D.1.1517, the Permittee shall maintain records of the pressure drop during normal operation. **The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g., the dryer/mixer did not operate that day).**
- (c) To document compliance with Condition D.1.6 and D.1.7(a), (b), and (c), **D.1.9 (a) and**

(c), the Permittee shall maintain records in accordance with (1) through (8) below. Records maintained for (1) through (8) shall be taken monthly and shall be complete and sufficient to establish compliance with the SO₂ emission limits established in Conditions D.1.6 and D.1.7~~(a); (b);~~ and (c), **D.1.9 (a) and (c)**.

- (1) Calendar dates covered in the compliance determination period;
- (2) Actual fuel usage of each type of fuel used per month since the last compliance determination period;
- (3) Average heating value of the No. 2 oil, ~~and~~ refinery blend fuel oil, **and waste oil**;
- (4) Average sulfur dioxide (SO₂) emission rate (pounds per million Btu);
- (5) 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 if the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
- (6) Fuel supplier certifications;
- (7) The name of the fuel supplier; and
- (8) A statement from the fuel supplier that certifies the sulfur content of the fuel oil **or waste oil, and a statement from the fuel supplier that certifies the chlorine content of the waste oil.**

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (d) To document compliance with Conditions D.1.7(a), (b), and (c), D.1.9(a) and (b), and D.1.6, the Permittee shall keep records of the actual amount of each fuel used at the dryer/mixer burner all other fuel combustion equipment, since the last compliance determination period and equivalent sulfur dioxide and hydrogen chloride emissions. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.**
- (e) To document compliance with Conditions D.1.4(a) and D.1.8(a), the Permittee shall keep records of the amount of hot mix asphalt produced per month. Records maintained shall be complete and sufficient to establish compliance with the hot mix asphalt production limits established in Conditions D.1.4(a) and D.1.8(a).**
- (ef)** To document compliance with Condition D.1.7~~(e)~~, the Permittee shall maintain records at the facility of the amount of fuel oil diluent used in the production of cold mix emulsified asphalt each month. The records shall be complete and sufficient to establish compliance with the VOC usage limit set in Condition D.1.7~~(e)~~ of this permit. The records shall contain a minimum of the following:
 - (1) Amount of cold-mix (emulsified) asphalt produced each month and for the past twelve (12) months.
 - (2) Amount and type of emulsion used in the production of cold mix emulsified

asphalt each month;

- (3) The percent fuel oil used in the emulsion;
- (4) The VOC solvent content by weight of the emulsion used in the production of cold mix emulsified asphalt each month; and
- (5) The amount of VOC volatilized from the cold-mix (emulsified) asphalt produced each month and for the past twelve (12) months.

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 cold mix emulsified asphalt may be used to document volatilization. All records shall be maintained in accordance with Section C – General Record Keeping Requirements, of this permit.

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

D.1.4820 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions **D.1.4(a)**, **D.1.7(ea)**, ~~and D.1.7(ed)~~, **D.1.8(a)**, and **D.1.9(b)** shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

Single Liquid Binder Solvent Quarterly Report

Source Name: Brooks Construction Company, Inc.
 Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
 Mailing Address: P.O. Box 9560, Fort Wayne, Indiana 46899
 FESOP No.: F039-17738-03325
 Facility: Asphalt plant
 Parameter: VOC – solvent usage, liquid binder usage
 Limit: Cutback asphalt rapid cure liquid binder usage shall not exceed ~~90.97~~ **52.63** tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month.
 Cutback asphalt medium cure liquid binder usage shall not exceed ~~123.46~~ **71.43** tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month.
 Cutback asphalt slow cure liquid binder usage shall not exceed ~~345.68~~ **200.0** tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month.
 Emulsified asphalt with solvent liquid binder usage shall not exceed ~~476.37~~ **102.04** tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month.
 Emulsified asphalt with fuel oil liquid binder usage shall not exceed ~~1234.57~~ **714.29** tons of VOC solvent per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: _____

The following liquid binder solvent was the only liquid binder solvent used over the previous 12 month period: _____ Limit applicable: _____
 (use of more than one binder requires the use of the "Multiple Liquid Binder Solvents" report form)

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

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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH

Multiple Liquid Binder Solvent Quarterly Report

Source Name: Brooks Construction Company, Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Mailing Address: P.O. Box 9560, Fort Wayne, Indiana 46899
FESOP No.: F039-17738-03325
Facility: Asphalt Plant Cold-mix asphalt production
Parameter: VOC Emissions from Liquid Binder Solvent Usage
Limit: ~~86.42~~ 50.0 tons per year

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

FESOP Quarterly Report

Source Name: Brooks Construction Company, Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Mailing Address: P.O. Box 9560, Fort Wayne, Indiana 46899
FESOP No.: F039-17738-03325
Facility: 84.0 MMBtu per hour burner for the aggregate dryer/mixer
Parameter: Refinery blend fuel oil & refinery blend fuel oil equivalents usage to limit SO₂ emissions
Limit: ~~the usage of refinery blend fuel oil with a maximum sulfur content of 1.0% and refinery blend fuel oil equivalents in the 84.0 MMBtu per hour aggregate dryer burner shall not exceed 1,291,333 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
Limit: **The total usage of refinery blend fuel oil and refinery blend fuel oil equivalents for the dryer/mixer burner all other fuel combustion equipment shall be limited to less than 1,320,000 gallons or equivalent per twelve (12) consecutive month period, with compliance determined at the end of each month.**

For the purpose of determining compliance with this limit:

- (1) Every 250 million cubic feet of natural gas shall be equivalent to one thousand (1000) gallons of refinery blend fuel oil.**
- (2) Every 2.11 gallons of No. 2 fuel oil shall be equivalent to one (1) gallon of refinery blend fuel oil**
- (3) Every 2.04 gallons of waste oil shall be equivalent to one (1) gallon of refinery blend fuel oil.**

The sulfur content of the No. 2 fuel oil and waste oil shall not exceed 0.5% by weight and the sulfur content of the refinery blend fuel oil shall not exceed 1.0% by weight.

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
MC-61-53 IGCN 1003**

FESOP Quarterly Report

Source Name: Brooks Construction Company, Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Mailing Address: P.O. Box 9560, Fort Wayne, Indiana 46899
FESOP No.: F039-17738-03325
Facility: One (1) drum dryer/mixer
Parameter: Hot mix asphalt production
Limit: 1,500,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

QUARTER: _____ YEAR: _____

Month	Asphalt Produced (tons)	Asphalt Produced (tons)	Asphalt Produced (tons)
	This Month	Previous 11 Months	12 Month Total

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

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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 November 14, 2007.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Revision No. F039-25540-03325. The staff recommends to the Commissioner that this FESOP Significant Revision be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Rebecca Jacobs 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) 234-5378 or toll free at 1-800-451-6027 extension 4-5378.
- (b) A copy of the findings is available on the Internet at: www.in.gov/idem/permits/air/pending.html.
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.in.gov/idem/permits/guide/.

Appendix A: Emissions Calculations
Unlimited/Uncontrolled Waste Oil Combustion
Drum Dryer/Mixer

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

The following calculations determine the Unlimited/Uncontrolled emissions created from the waste oil combustion in the dryer/mixer

Maximum Capacity

Maximum Fuel Input Rate =	84	MMBtu/hr
Equivalent Used/Waste Oil Usage =	5,256,000	gal/yr
	0.50	% sulfur
	0.65	% ash
	0.40	% chlorine
	0.01	% lead

Unlimited/Uncontrolled Emissions from Combustion of Waste Oil

Criteria Pollutant	Emission Factor (lb/kgal)	Unlimited/Uncontrolled Potential to Emit (tons/yr)
PM	41.6	109.32
PM10	33.15	87.12
SO2	73.5	193.16
NOx	19.0	49.93
VOC	1.0	2.63
CO	5.0	13.14
Hazardous Air Pollutant		
HCl	26.4	69.38
Antimony	negl	negl
Arsenic	1.1E-01	2.89E-01
Beryllium	negl	negl
Cadmium	9.3E-03	2.44E-02
Chromium	2.0E-02	5.26E-02
Cobalt	2.1E-04	5.52E-04
Lead	0.55	1.4E+00
Manganese	6.8E-02	1.79E-01
Mercury	negl	negl
Nickel	1.1E-02	2.89E-02
Selenium	negl	negl
1,1,1-Trichloroethane	negl	negl
1,3-Butadiene	negl	negl
Acetaldehyde	negl	negl
Acrolein	negl	negl
Benzene	negl	negl
Bis(2-ethylhexyl)phthalate	2.2E-03	5.78E-03
Dichlorobenzene	8.0E-07	2.10E-06
Ethylbenzene	negl	negl
Formaldehyde	negl	negl
Hexane	negl	negl
Phenol	2.4E-03	6.31E-03
Toluene	negl	negl
Total PAH Haps	3.9E-02	1.03E-01
Polycyclic Organic Matter	negl	negl
Xylene	negl	negl
Total HAPs		71.51

Methodology

Equivalent Waste Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
 Waste Oil Combustion Emission Factors from 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	CO = Carbon Monoxide
PM10 = Particulate Matter (<10 um)	HAP = Hazardous Air Pollutant
SO2 = Sulfur Dioxide	HCl = Hydrogen Chloride
NOx = Nitrous Oxides	PAH = Polyaromatic Hydrocarbon
VOC - Volatile Organic Compounds	

**Appendix A: Emissions Calculations
Limited Emission Summary**

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

Asphalt Plant Limitations

Annual Asphalt Production Limitation =	1,500,000	ton/yr
Natural Gas Limitation =	735.84	MMCF/yr
No. 2 Fuel Oil Limitation =	2,530,000	gal/yr, and 0.50 % sulfur
Refinery Blend Fuel Oil Limitation =	1,320,000	gal/yr, and 1.00 % sulfur
Used/Waste Oil Limitation =	750,000	gal/yr, and 0.50 % sulfur 0.65 % ash 0.400 % chlorine, 0.010 % lead
PM Dryer/Mixer Limitation =	0.186	lb/ton of asphlt production
PM10 Dryer/Mixer Limitation =	0.074	lb/ton of asphlt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphlt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphlt production
Cold Mix Asphalt VOC Usage Limitation =	50.0	tons/yr

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)							
	Criteria Pollutants						Hazardous Air Pollutants	
	PM	PM10	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP
Ducted Emissions								
Fuel Combustion (worst case)	15.60	12.43	99.00	36.79	2.02	30.91	11.02	9.90 (hydrogen chloride)
Dryer/Mixer	139.50	55.50	43.50	41.25	24.00	97.50	7.99	2.33 (formaldehyde)
Worst Case Emissions	139.50	55.50	99.00	41.25	24.00	97.50	11.02	9.90 (hydrogen chloride)
Fugitive Emissions								
Asphalt Load-Out, Silo Filling, On-Site Yard	0.83	0.83	0	0	12.85	2.16	0.21	0.07 (formaldehyde)
Hot Oil and Asphalt Heaters	0	0	0	0	1.2E-03	0.05	1.2E-03	7.4E-04 (naphthalene)
Material Storage Piles	1.07	0.37	0	0	0	0	0	0
Material Processing and Handling	4.85	2.29	0	0	0	0	0	0
Material Screening and Conveying	19.95	6.98	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	53.25	13.57	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	50.00	0	13.04	4.50 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	negl.	0	negl.	negl.
Total Fugitive Emissions	79.95	24.05	0	0	62.85	2.22	13.26	4.50 (xylenes)
Totals Limited/Controlled Emissions	219.45	79.55	99.00	41.25	86.85	99.72	24.27	9.90 (hydrogen chloride)

negl = negligible

**Appendix A: Emissions Calculations
Limited Emissions
Fuel Combustion**

**Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs**

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

Annual Asphalt Production Limitation =	1,500,000	ton/yr								
Natural Gas Limitation =	735.84	MMCF/yr								
No. 2 Fuel Oil Limitation =	2,530,000	gal/yr, and	0.50	% sulfur						
Refinery Blend Fuel Oil Limitation =	1,320,000	gal/yr, and	1.00	% sulfur						
Waste Oil Limitation =	750,000	gal/yr, and	0.50	% sulfur	0.65	% ash	0.400	% chloride,	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)	Refinery Blend Fuel Oil (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Refinery Blend Fuel Oil (tons/yr)	Used/ Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2	7	41.6	0.70	2.53	4.62	15.60	15.6
PM10	7.6	3.3	8.3	33.15	2.80	4.17	5.48	12.43	12.43
SO2	0.6	71.0	150.0	73.5	0.22	89.82	99.00	27.56	99.00
NOx	100	20.0	20.0	19.0	36.79	25.30	13.20	7.13	36.79
VOC	5.5	0.20	0.20	1.0	2.02	0.25	0.13	0.38	2.02
CO	84	5.0	5.0	5.0	30.91	6.33	3.30	1.88	30.91
Hazardous Air Pollutant									
HCl				26.4				9.90	9.90
Antimony			5.25E-03	negl			3.47E-03	negl	3.5E-03
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.1E-01	7.4E-05	7.08E-04	8.71E-04	4.13E-02	4.1E-02
Beryllium	1.2E-05	4.2E-04	2.78E-05	negl	4.4E-06	5.31E-04	1.83E-05	negl	5.3E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	9.3E-03	4.0E-04	5.31E-04	2.63E-04	3.49E-03	3.5E-03
Chromium	1.4E-03	4.2E-04	8.45E-04	2.0E-02	5.2E-04	5.31E-04	5.58E-04	7.50E-03	7.5E-03
Cobalt	8.4E-05		6.02E-03	2.1E-04	3.1E-05		3.97E-03	7.88E-05	4.0E-03
Lead	5.0E-04	1.3E-03	1.51E-03	0.55	1.8E-04	1.59E-03	9.97E-04	2.1E-01	0.21
Manganese	3.8E-04	8.4E-04	3.00E-03	6.8E-02	1.4E-04	1.06E-03	1.98E-03	2.55E-02	0.03
Mercury	2.6E-04	4.2E-04	1.13E-04		9.6E-05	5.31E-04	7.46E-05		5.3E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	1.1E-02	7.7E-04	5.31E-04	5.58E-02	4.13E-03	0.056
Selenium	2.4E-05	2.1E-03	6.83E-04	negl	8.8E-06	2.66E-03	4.51E-04	negl	2.7E-03
1,1,1-Trichloroethane			2.36E-04				1.56E-04		1.6E-04
1,3-Butadiene									0.0E+00
Acetaldehyde									0.0E+00
Acrolein									0.0E+00
Benzene	2.1E-03		2.14E-04		7.7E-04		1.41E-04		7.7E-04
Bis(2-ethylhexyl)phthalate				2.2E-03				8.25E-04	8.3E-04
Dichlorobenzene	1.2E-03			8.0E-07	4.4E-04			3.00E-07	4.4E-04
Ethylbenzene			6.36E-05				4.20E-05		4.2E-05
Formaldehyde	7.5E-02	6.10E-02	3.30E-02		2.8E-02	7.72E-02	2.18E-02		0.077
Hexane	1.8E+00				0.66				0.662
Phenol				2.4E-03				9.00E-04	9.0E-04
Toluene	3.4E-03		6.20E-03		1.3E-03		4.09E-03		4.1E-03
Total PAH Haps	negl		1.13E-03	3.9E-02	negl		7.46E-04	1.47E-02	1.5E-02
Polycyclic Organic Matter		3.30E-03				4.17E-03			4.2E-03
Xylene			1.09E-04				7.19E-05		7.2E-05
Total HAPs					0.69	0.09	0.10	10.20	11.02

Methodology

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

No. 2 and Refinery Blend 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

Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-4

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 = Polyaromatic Hydrocarbon

**Appendix A: Emissions Calculations
Limited Emissions**

**Dryer/Mixer
Volatile Organic Compounds and Hazardous Air Pollutants**

**Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs**

The following calculations determine the limited emissions from the aggregate drying/mixing

Annual Asphalt Production Limitation =	1,500,000	ton/yr
PM Dryer/Mixer Limitation =	0.186	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.074	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	Blend Fuel Oil or Waste Oil	Natural Gas	No. 2 Fuel Oil	Blend Fuel Oil or Waste Oil	
PM	0.186	0.186	0.186	139.5	139.5	139.5	139.5
PM10	0.074	0.074	0.074	55.5	55.5	55.5	55.5
SO2	0.0034	0.011	0.058	2.6	8.3	43.5	43.5
NOx	0.026	0.055	0.055	19.5	41.3	41.3	41.3
VOC	0.032	0.032	0.032	24.0	24.0	24.0	24.0
CO	0.13	0.13	0.13	97.5	97.5	97.5	97.5
Hazardous Air Pollutant							
HCl			2.10E-04			0.16	0.16
Antimony	1.80E-07	1.80E-07	1.80E-07	1.35E-04	1.35E-04	1.35E-04	1.35E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	4.20E-04	4.20E-04	4.20E-04	4.20E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	3.08E-04	3.08E-04	3.08E-04	3.08E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	4.13E-03	4.13E-03	4.13E-03	4.13E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.95E-05	1.95E-05	1.95E-05	1.95E-05
Lead	6.20E-07	1.50E-05	1.50E-05	4.65E-04	1.13E-02	1.13E-02	1.13E-02
Manganese	7.70E-06	7.70E-06	7.70E-06	5.78E-03	5.78E-03	5.78E-03	5.78E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	1.80E-04	1.95E-03	1.95E-03	1.95E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	4.73E-02	4.73E-02	4.73E-02	4.73E-02
Selenium	3.50E-07	3.50E-07	3.50E-07	2.63E-04	2.63E-04	2.63E-04	2.63E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	3.00E-02	3.00E-02	3.00E-02	3.00E-02
Acetaldehyde			1.30E-03			0.98	0.98
Acrolein			2.60E-05			1.95E-02	1.95E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.29	0.29	0.29	0.29
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.18	0.18	0.18	0.18
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	2.33	2.33	2.33	2.33
Hexane	9.20E-04	9.20E-04	9.20E-04	0.69	0.69	0.69	0.69
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.04	0.04	0.04	0.04
MEK			2.00E-05			0.02	0.02
Propionaldehyde			1.30E-04			0.10	0.10
Quinone			1.60E-04			0.12	0.12
Toluene	1.50E-04	2.90E-03	2.90E-03	0.11	2.18	2.18	2.18
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.14	0.66	0.66	0.66
Xylene	2.00E-04	2.00E-04	2.00E-04	0.15	0.15	0.15	0.15
Total HAPs							7.99
Worst Single HAP							2.325 (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, 11.1-7, 11.1-8, 11.1-10, and 11.1-11)

*Emission of PM, PM10, SO2, NOx, and, CO from Drum-Mix Plants are included with the emission calculations for fuel combustion

Abbreviations

VOC - Volatile Organic Compounds HAP = Hazardous Air Pollutant
HCl = Hydrogen Chloride PAH = Polyaromatic Hydrocarbon
SO2 = Sulfur Dioxide

Appendix A: Emissions Calculations
Limited Emissions
Load-Out, Silo Filling, and On-Site Yard Emissions

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

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 =	1,500,000	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	0.39	0.44	NA	0.83
Organic PM	3.4E-04	2.5E-04	NA	0.26	0.190	NA	0.45
TOC	0.004	0.012	0.001	3.12	9.14	0.825	13.1
CO	0.001	0.001	3.5E-04	1.01	0.885	0.264	2.16

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

PM/HAPs	0.018	0.022	0	0.040
VOC/HAPs	0.046	0.116	0.012	0.174
non-VOC/HAPs	2.4E-04	2.5E-05	6.4E-05	3.3E-04
non-VOC/non-HAPs	0.23	0.13	0.06	0.42

Total VOCs	2.93	9.14	0.8	12.8
Total HAPs	0.06	0.14	0.012	0.21
Worst Single HAP				0.067
				(formaldehyde)

Methodology

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

Abbreviations

- TOC = Total Organic Compounds
- CO = Carbon Monoxide
- PM = Particulate Matter
- HAP = Hazardous Air Pollutant
- VOC = Volatile Organic Compound

**Appendix A: Emissions Calculations
Limited Emissions
Load-Out, Silo Filling, and On-Site Yard Emissions (continued)**

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

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%	6.6E-04	8.9E-04	NA	1.6E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	7.2E-05	2.7E-05	NA	9.8E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.8E-04	2.5E-04	NA	4.3E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	4.9E-05	1.1E-04	NA	1.6E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.9E-05	0	NA	1.9E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	5.6E-06	0	NA	5.6E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	4.9E-06	0	NA	4.9E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	5.9E-06	0	NA	5.9E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	2.0E-05	1.8E-05	NA	3.8E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	2.6E-04	4.0E-04	NA	6.6E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	9.5E-07	0	NA	9.5E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.3E-04	2.9E-04	NA	4.1E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	2.0E-03	1.9E-03	NA	3.9E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.2E-06	0	NA	1.2E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	6.1E-03	1.0E-02	NA	0.016
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	3.2E-03	3.5E-03	NA	6.7E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	5.6E-05	5.7E-05	NA	1.1E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	2.1E-03	3.4E-03	NA	5.5E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	3.8E-04	8.4E-04	NA	1.2E-03
Total PAH HAPs							0.015	0.022	NA	0.037
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	3.0E-03	0	0	3.0E-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: General Asphalt FESOP Emissions Calculations
Limited Emissions
Load-Out, Silo Filling, and On-Site 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%	2.93	9.14	0.78	12.85
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	2.0E-01	2.4E-02	5.4E-02	0.280
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.4E-03	5.0E-03	3.8E-04	0.007
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	2.2E-02	1.0E-01	5.9E-03	0.129
Total non-VOC/non-HAPS					7.30%	1.40%	0.228	0.128	0.060	0.42
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.6E-03	2.9E-03	4.3E-04	5.0E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	3.0E-04	4.5E-04	7.9E-05	8.3E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.5E-03	3.6E-03	4.0E-04	5.5E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	4.1E-04	1.5E-03	1.1E-04	2.0E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	6.6E-06	3.7E-04	1.7E-06	3.7E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	4.7E-04	2.1E-03	1.2E-04	2.7E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	3.4E-03	0	9.1E-04	4.3E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	8.7E-03	3.5E-03	2.3E-03	0.015
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	2.7E-03	6.3E-02	7.3E-04	0.067
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	4.7E-03	9.1E-03	1.2E-03	0.015
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	5.6E-05	2.8E-05	1.5E-05	9.9E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.5E-05	0	2.5E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	2.3E-04	4.9E-04	6.0E-05	7.8E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.4E-04	0	6.4E-05	3.0E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	6.6E-03	5.7E-03	1.7E-03	0.014
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	4.1E-05	0	1.1E-05	5.1E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.3E-02	1.8E-02	3.4E-03	0.034
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.5E-03	5.2E-03	6.6E-04	8.4E-03
Total volatile organic HAPs					1.50%	1.30%	0.047	0.119	0.012	0.178

Methodology

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

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

Abbreviations

TOC = Total Organic Compounds

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

MTBE = Methyl tert butyl ether

**Appendix A: Emissions Calculations
Hot Oil and Asphalt Heaters**

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

The following calculations determine the fugitive emissions from the hot oil and asphalt heaters

Maximum Fuel Input Rate = 1.4 MMBtu/hr
 Equivalent Natural Gas Usage = 12.3 MMCF/yr
 Equivalent No. 2 Fuel Oil Usage = 87,600 gal/yr, and

Criteria Pollutant	Emission Factors		Potential to Emit (tons/yr)		Worse Case PTE
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	
VOC	2.60E-08	2.65E-05	1.59E-04	1.16E-03	1.16E-03
CO	8.90E-06	1.20E-03	0.055	0.053	0.055
Hazardous Air Pollutant					
Formaldehyde:	2.60E-08	3.50E-06	1.59E-04	1.53E-04	1.59E-04
Acenaphthene		5.30E-07		2.32E-05	2.32E-05
Acenaphthylene		2.00E-07		8.76E-06	8.76E-06
Anthracene		1.80E-07		7.88E-06	7.88E-06
Benzo(b)fluoranthene		1.00E-07		4.38E-06	4.38E-06
Fluoranthene		4.40E-08		1.93E-06	1.93E-06
Fluorene		3.20E-08		1.40E-06	1.40E-06
Naphthalene		1.70E-05		7.45E-04	7.45E-04
Phenanthrene		4.90E-06		2.15E-04	2.15E-04
Pyrene		3.20E-08		1.40E-06	1.40E-06

Total HAPs 1.17E-03
Worst Single HAP 7.45E-04 (Naphthalene)

Methodology

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

Abbreviations

CO = Carbon Monoxide
 VOC = Volatile Organic Compound

**Appendix A: Emissions Calculations
Material Storage Piles**

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

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 (tons/yr)
Sand	2.6	3.01	0.918	0.504	0.176
RAP	0.5	0.58	0.92	0.097	0.034
Gravel	1.6	1.85	1.377	0.465	0.163
Totals				1.07	0.37

Methodology

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

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

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

**Maximum pile size (acres) based on FESOP No. 039-17738-03325

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PTE = Potential to Emit

Appendix A: Emissions Calculations
Limited Emissions
Fugitive Dust Emissions - Material Processing and Handling

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

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 μ m)
k (PM10) = 0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter ≤ 10 μ m)
U = 10.2	= worst case annual mean wind speed (Source: NOAA, 2005*)
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

Annual Asphalt Production Limitation = 1,500,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 1,425,000 tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)
Truck unloading of materials into storage piles	1.62	0.76
Front-end loader dumping of materials into feeder bins	1.62	0.76
Conveyor dropping material into dryer/mixer	1.62	0.76
Total (tons/yr)	4.85	2.29

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 limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives

*Worst case annual mean wind speed (South Bend, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2005

Material Screening and Conveying (AP-42 Section 19.2.2)

To estimate potential fugitive dust emissions from raw material 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 (tons/yr)
Screening	0.025	0.0087	17.81	6.20
Conveying	0.003	0.0011	2.14	0.78
Limited Potential to Emit (tons/yr)			19.95	6.98

Appendix A: Emissions Calculations
Limited Emissions
Fugitive Dust Emissions - Unpaved Roads

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

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 =	1,500,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,425,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	75,000	tons/yr
No. 2 Fuel Oil Limitation =	2,530,000	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	6.4E+04	2.5E+06	300	0.057	3614.5
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	6.4E+04	1.1E+06	300	0.057	3614.5
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	2.1E+03	1.0E+05	300	0.057	118.4
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.1E+03	2.5E+04	300	0.057	118.4
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.7E+02	1.2E+04	300	0.057	15.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.7E+02	3.2E+03	300	0.057	15.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	3.4E+05	6.5E+06	300	0.057	19277.6
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	3.4E+05	5.1E+06	300	0.057	19277.6
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	6.3E+04	2.6E+06	300	0.057	3551.1
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	6.3E+04	1.1E+06	300	0.057	3551.1
Total					9.4E+05	1.9E+07			5.3E+04

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.057	miles/trip

Unmitigated Emission Factor, $E_f = k \cdot [(s/12)^a] \cdot [(W/3)^b]$ (Equation 1a from AP-42 13.2.2)

	PM	PM10	
where k =	4.9	1.5	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	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	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E \cdot [(365 - P)/365]$

Mitigated Emission Factor, $E_{ext} = E \cdot [(365 - P)/365]$

where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	
Unmitigated Emission Factor, $E_f =$	6.09	1.55	lb/mile
Mitigated Emission Factor, $E_{ext} =$	4.01	1.02	lb/mile
Dust Control Efficiency =	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)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	11.01	2.81	7.24	1.85	3.62	0.92
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	11.01	2.81	7.24	1.85	3.62	0.92
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.361	0.092	0.237	0.060	0.119	0.030
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.361	0.092	0.237	0.060	0.119	0.030
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.046	0.012	0.030	0.008	0.015	0.004
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.046	0.012	0.030	0.008	0.015	0.004
Aggregate/RAP Loader Full	Front-end loader (3 CY)	58.75	14.97	38.63	9.84	19.31	4.92
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	58.75	14.97	38.63	9.84	19.31	4.92
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	10.82	2.76	7.12	1.81	3.56	0.91
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	10.82	2.76	7.12	1.81	3.56	0.91
Totals		161.98	41.28	106.51	27.14	53.25	13.57

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)
 PTE = Potential to Emit

**Appendix A: Emissions Calculations
Limited Emissions
Fugitive Dust Emissions - Paved Roads**

**Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs**

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 =	1,500,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,425,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	75,000	tons/yr
No. 2 Fuel Oil Limitation =	2,530,000	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	6.4E+04	2.5E+06	300	0.057	3614.5
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	6.4E+04	1.1E+06	300	0.057	3614.5
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	2.1E+03	1.0E+05	300	0.057	118.4
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.1E+03	2.5E+04	300	0.057	118.4
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.7E+02	1.2E+04	300	0.057	15.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.7E+02	3.2E+03	300	0.057	15.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	3.4E+05	6.5E+06	300	0.057	19277.6
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	3.4E+05	5.1E+06	300	0.057	19277.6
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	6.3E+04	2.6E+06	300	0.057	3551.1
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	6.3E+04	1.1E+06	300	0.057	3551.1
Total					9.4E+05	1.9E+07			5.3E+04

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.057	miles/trip

Unmitigated Emission Factor, $E_f = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C]$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	
where k =	0.082	0.016	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer)

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	
Unmitigated Emission Factor, $E_f =$	0.66	0.13	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.60	0.12	lb/mile
Dust Control Efficiency =	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)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	1.19	0.23	1.09	0.21	0.54	0.11
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	1.19	0.23	1.09	0.21	0.54	0.11
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.039	0.008	0.036	0.007	0.018	3.5E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.039	0.008	0.036	0.007	0.018	3.5E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	5.0E-03	9.7E-04	4.6E-03	8.9E-04	2.3E-03	4.4E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	5.0E-03	9.7E-04	4.6E-03	8.9E-04	2.3E-03	4.4E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	6.34	1.23	5.80	1.13	2.90	0.56
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	6.34	1.23	5.80	1.13	2.90	0.56
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	1.17	0.23	1.07	0.21	0.53	0.10
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	1.17	0.23	1.07	0.21	0.53	0.10
Totals		17.48	3.40	15.98	3.11	7.99	1.55

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)
 PTE = Potential to Emit

**Appendix A: Emissions Calculations
Cold Mix Asphalt Production and Stockpiles**

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 4652f
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

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 = **50.0** 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%	52.63	50.0
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	71.43	50.0
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	200.00	50.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	49.0%	102.04	50.0
Other asphalt with solvent binder	1.5%	7.0%	714.29	50.0
Worst Case Limited PTE of VOC =				50.0

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) =	13.04	
Limited PTE of Single HAP (tons/yr) =	4.50	Xylenes

Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents

	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
Volatile Organic HAP						
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:

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

Appendix A: Emissions Calculations
Fuel Equivalency Calculations
Fuel Combustion Units with Maximum Capacity < 100 MMBtu/hr

Company Name: Brooks Construction Co., Inc.
Source Address: 18130 U.S. Highway 20, Goshen, Indiana, 46526
Significant Permit Revision No.: 039-25540-03325
Reviewer: Rebecca Jacobs

The following calculations determine the fuel equivalencies for each of the fuels as compared to refinery blend fuel oil (assumed similar to No. 4 fuel oil) for sulfur dioxide (SO₂):

SO ₂ Equivalency						
Fuel Type	Limited Sulfur Content	Limited Sulfur Content Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units
Natural Gas	NA	NA	0.6	lb/MMCF	250.0	MMCF natural gas / 1000 gal refinery blend fuel oi
No. 2 Fuel Oil	0.50	% by weight	71.00	lb/kgal	2.11	gal No. 2 fuel oil / gal refinery blend fuel oi
Refinery Blend Fuel Oil (No. 4 Fuel Oil)	1.00	% by weight	150.00	lb/kgal	1.00	gal refinery blend fuel oil / gal refinery blend fuel o
Waste Oil	0.50	% by weight	73.50	lb/kgal	2.04	gal waste oil / gal refinery blend fuel oi

Methodology

Fuel Equivalency = [AP-42 Emission Factor for refinery blend fuel oil (lb/kgal)] / [AP-42 Emission Factor for any fuel type (lb/kgal or lb/MMCF]

Sources of AP-42 Emission Factors for fuel combustion:

- Natural Gas (boiler < 100 MMBtu/hr): AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1 and 1.4-2
- No. 2 and No.4 (industrial boiler < 100 MMBtu/hr) AP-42 Chapter 1.3 (dated 9/98), Table 1.3-1
- Waste Oil (small boiler): AP-42 Chapter 1.11 (dated 10/96), Table 1.11-2