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: December 9, 2011

RE: API Construction Corp/151-30477-00064

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

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot12/03/07

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Federally Enforceable State Operating Permit Renewal
OFFICE OF AIR QUALITY

API Construction Corp
225 South CR 600 W
Angola, Indiana 46703

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

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

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

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

Operation Permit No.: F 151-30477-00064	
Issued by: Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: December 9, 2011 Expiration Date: December 9, 2021

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SECTION A SOURCE SUMMARY

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

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

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

Source Address:	225 South CR 600 W, Angola, Indiana 46703
General Source Phone Number:	(260) 897 2743
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
County Location:	Steuben
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

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

(a) One (1) hot asphalt drum mix dryer, constructed in 2007, with a maximum capacity of 200 tons per hour of raw material, equipped with one (1) 50 million British thermal units (MMBtu) per hour liquefied petroleum fuel fired burner, using #2 fuel oil or re-refined waste oil as a backup fuels, processing blast furnace slag and steel slag in the aggregate mixer, equipped with one (1) jet pulse baghouse for particulate matter control, exhausting through one (1) stack, identified as SV-1;
[This source does not use shingles in the aggregate mixer.]

(b) One (1) 25,000 gallon asphalt storage tank;

(c) One (1) 12,000 gallon asphalt storage tank;

(d) One (1) 12,000 gallon No. 2 fuel oil storage tank.

Under NSPS Subpart I, the above units are considered affected facilities.

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

This stationary source also includes the following insignificant activities:

(a) 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:

(1) One (1) No. 2 distillate fuel oil fired hot oil heater, with a maximum rated capacity of 1.0 million British thermal units per hour.

(b) Combustion source flame safety purging on startup.

(c) Paved and unpaved roads and parking lots with public access.

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

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

SECTION B GENERAL CONDITIONS

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

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

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

(a) This permit, F 151-30477-00064, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

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

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

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

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

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

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

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

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

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

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

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

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

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

(1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

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

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

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

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

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

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

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

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

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

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

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

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

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

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

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

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

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

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

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

(A) A description of the emergency;

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

(C) Corrective actions taken.

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

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

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

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

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

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

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

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

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

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

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

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

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

(a) All terms and conditions of permits established prior to F 151-30477-00064 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

(b) All previous registrations and permits are superseded by this permit.

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

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

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

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

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

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

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

Request for renewal shall be submitted to:

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

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

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

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

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

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

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

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

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

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

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

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

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

(2) Any approval required by 326 IAC 2-8-11.1 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

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

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

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

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

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

(c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

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

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

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

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

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

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

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

(a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

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

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

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

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

(b) Failure to pay may result in administrative enforcement action or revocation of this permit.

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

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

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 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) and greenhouse gases (GHGs), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

(2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

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

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

C.3 Opacity [326 IAC 5-1]

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

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

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

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

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

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

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

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

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

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

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

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

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

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

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

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

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

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

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

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

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

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

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted

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

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

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

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

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

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

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

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

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

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

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

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

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

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

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

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

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

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

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

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

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

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ

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

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

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

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

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

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

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

C.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 except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

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

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) One (1) hot asphalt drum mix dryer, constructed in 2007, with a maximum capacity of 200 tons per hour of raw material, equipped with one (1) 50 million British thermal units (MMBtu) per hour liquefied petroleum fuel fired burner, using #2 fuel oil or re-refined waste oil as a backup fuels, processing blast furnace slag and steel slag in the aggregate mixer, equipped with one (1) jet pulse baghouse for particulate matter control, exhausting through one (1) stack, identified as SV-1;
[This source does not use shingles in the aggregate mixer.]

(b) One (1) 25,000 gallon asphalt storage tank;

(c) One (1) 12,000 gallon asphalt storage tank;

(d) One (1) 12,000 gallon No. 2 fuel oil storage tank.

Under NSPS Subpart I, the above units are considered affected facilities.

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

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

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

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

(a) The asphalt production rate shall not exceed 1,400,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM emissions from the dryer/mixer shall not exceed 0.240 pounds of PM per ton of asphalt produced.

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

D.1.2 FESOP Limits: PM10, PM2.5, and CO [326 IAC 2-8-4] [326 IAC 2-2]

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

(a) The asphalt production rate shall not exceed 1,400,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM10 emissions from the dryer/mixer shall not exceed 0.100 pounds of PM10 per ton of asphalt produced.

(c) PM2.5 emissions from the dryer/mixer shall not exceed 0.122 pounds of PM2.5 per ton of asphalt produced.

(d) CO emissions from the dryer/mixer shall not exceed 0.13 pounds of CO per ton of asphalt produced.

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

D.1.3 FESOP Limits: Sulfur Dioxide (SO_2) [326 IAC 2-8-4] [326 IAC 2-2]

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

(a) Fuel and Slag Content Limits

(1) The sulfur content of No. 2 fuel oil shall not exceed 0.5 percent by weight.

(2) The sulfur content of the re-refined waste oil shall not exceed 1.4 percent by weight.

(3) The sulfur content of the blast furnace slag shall not exceed 1.5 percent by weight.

(4) SO2 emissions from the dryer/mixer shall not exceed 0.74 pounds of SO2 per ton of Blast Furnace Slag processed.

(5) The sulfur content of the steel slag shall not exceed 0.66 percent by weight.

(6) SO2 emissions from the dryer/mixer shall not exceed 0.0014 pounds of SO2 per ton of steel slag processed.

(b) Single Fuel and Slag Usage Limitations:

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

(1) No. 2 fuel oil usage shall not exceed 2,700,105 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(2) Re-refined waste oil usage shall not exceed 931,523 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(3) Blast furnace slag and steel usage shall not exceed 2,500 tons per twelve (12) consecutive month period each, with compliance determined at the end of each month.

(c) Multiple Fuel Usage Limitations

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

SO2 emissions from the dryer/mixer burner shall not exceed 96.78 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

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

D.1.4 Hazardous Air Pollutants (HAPs) [326 IAC 2-8-4][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to limit HAP emissions from the dryer/mixer, the Permittee shall comply with the following:

(a) Hydrogen Chloride emissions from the dryer/mixer shall not exceed 0.0132 pounds of HCl per gallon of re-refined waste oil burned.

(b) The chlorine content of the re-refined waste oil shall not exceed 0.2 percent by weight.

Compliance with these limits, combined with the limited PTE from all other emission units at this source, shall limit the source-wide total potential to emit of any single HAP to less than 10 tons per 12 consecutive month period, and combination of HAPs to less than 25 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

D.1.5 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

In order to render the requirements of 326 IAC 8-1-6 not applicable, the dryer/mixer shall be limited as follows:

(a) The hot-mix asphalt production rate shall not exceed 1,400,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

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

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

D.1.6 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1][326 IAC 7-2-1]

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

(a) The sulfur dioxide (SO_2) emissions from the dryer/mixer burner shall not exceed 0.5 pounds per MMBtu when using distillate oil.

(b) The sulfur dioxide (SO_2) emissions from the dryer/mixer burner shall not exceed 1.6 pounds per MMBtu when using re-refined waste oil.

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

Note: No. 2 fuel oil is considered distillate oil, and re-refined waste oil is considered residual oil.

D.1.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements

D.1.8 Particulate Control

(a) In order to comply with Conditions D.1.1(b), D.1.2(b) and D.1.2(c), the baghouse for particulate control shall be in operation and control emissions from the dryer/mixer at all times that the dryer/mixer is in operation.

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

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

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

D.1.10 Sulfur Dioxide Emissions and Sulfur Content

(a) Compliance with the fuel limitations established in Conditions D.1.3(a)(1), D.1.3(a)(2) and D.1.6 shall be determined utilizing one of the following options.

(1) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed 0.5 pounds per million British thermal units heat input when combusting No. 2 distillate fuel oil, or 1.6 pounds per million British thermal units heat input when re-refined waste oil, by:

(A) Providing vendor analysis of heat content and sulfur content of the fuel delivered, if accompanied by a vendor certification; or

(B) Analyzing the fuel sample to determine the sulfur content of the fuel via the procedures in 40 CFR 60, Appendix A, Method 19.

(i) Fuel samples may be collected from the fuel tank immediately after the fuel tank is filled and before any fuel is combusted; and

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

(2) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 50 MMBtu per hour burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

(b) Compliance with the blast furnace slag limitation established in Conditions D.1.3(a)(3), and D.1.3(a)(4) shall be determined utilizing one of the following options.

(1) Providing vendor analysis of the blast furnace slag delivered, if accompanied by a vendor certification; or

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

(3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 50 MMBtu per hour burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

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

(c) Compliance with the steel slag limitation established in Conditions D.1.3(a)(5) and D.1.3(a)(6) shall be determined utilizing one of the following options.

(1) Providing vendor analysis of the steel slag delivered, if accompanied by a vendor certification; or

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

(3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 50 MMBtu per hour burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

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

D.1.11 Multiple Fuel Usage / Sulfur Dioxide (SO2) Emissions

In order to determine compliance with Condition D.1.3(c) - Multiple Fuel Usage Limits, when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, the Permittee shall use the following equation to determine the tons of SO2 emitted per twelve (12) consecutive month period:

Sulfur Dioxide emission calculation from Multiple Fuel Usage

$$S = \frac{L(E_l) + O(E_O) + W(Ew)}{2{,}000\, lbs/ton}$$

Where:

S = tons of sulfur dioxide emissions from fuels for twelve (12) month consecutive period

L = gallons of liquefied petroleum fuel oil used in last twelve (12) months

O = gallons of No. 2 fuel oil used in last twelve (12) months

W = gallons of Re-refined waste fuel oil used in last twelve (12) months

Emission Factors:
E_l = 0.00002 pounds per gallon of liquefied petroleum fuel oil
E_O = 0.071 pounds per gallon of No. 2 fuel oil
E_w = 0.21 pounds per gallon of Re-refined waste fuel oil

D.1.12 Hydrogen Chloride Emissions and Chlorine Content

To demonstrate compliance with condition C.1.4 that the chlorine content of the fuel used for the aggregate dryers does not exceed 0.2 percent by weight of chlorine, when operating on waste oil, by providing vendor analysis of fuel delivered accompanied by a vendor certification or by conducting a stack testing.

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

D.1.13 Visible Emissions Notations

(a) Visible emission notations of the dryer/mixer stack exhaust SV-1 shall be performed at least once per day during normal daylight operations when exhausting to the atmosphere. 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 is are observed, the Permittee shall take reasonable response steps. Section C- Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.14 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with the dryer/mixer, at least once per day when dryer/mixer is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 9.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response. On and after the date the stack test results are available the pressure drop shall be maintained within the normal range or minimum as observed during the compliant stack test. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside of the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.1.15 Broken or Failed Bag Detection

In the event that bag failure has been observed:

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

D.1.16 Record Keeping Requirements

(a) To document the compliance status with Conditions D.1.1(a), D.1.2(a) and D.1.5(a), the Permittee shall maintain monthly records of the amount of asphalt processed through the dryer/mixer.

(b) To document the compliance status with fuels and slag usage limitation Conditions D.1.3, and D.1.6, the Permittee shall maintain records in accordance with (1) through (7) below. Records maintained for (1) through (7) shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3 and D.1.6, and shall be available no later than thirty (30) days after the end of each compliance period.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide emission rates for each fuel used at the source since the last compliance determination period;

(3) 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

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

(i) Fuel supplier certifications;

(ii) The name of the fuel supplier; and

(iii) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

(5) Actual blast furnace slag and steel slag usage, sulfur content, for all blast furnace slag and steel slag used at the source since the last compliance determination period;

(6) A certification, signed by the owner or operator, that the records of the blast furnace slag and steel slag supplier certifications represent all of the blast furnace slag and steel slag used during the period; and

(7) If the blast furnace slag and steel slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

(i) Blast furnace slag and steel slag supplier certifications;

(ii) The name of the blast furnace slag and steel slag supplier; and

(iii) A statement from the blast furnace slag and steel slag supplier that certifies the sulfur content of the blast furnace slag and steel slag.

(c) To document the compliance status with Condition D.1.4, the Permittee shall maintain records in accordance with (1) through (4) below. Records necessary to determine compliance shall be available no later than 30 days after the end of each compliance period.

(1) Calendar dates covered in the compliance determination period;

(2) Actual re-refined waste oil usage, chlorine content, and equivalent hydrogen chloride emission rate for re-refined waste oil used at the source since the last compliance determination period;

(3) A certification, signed by the owner or operator, that the records of the fuel oil supplier certifications represent all of the fuel combusted during the period; and

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

(i) The name of the fuel supplier; and

(ii) A statement from the fuel supplier that certifies the chlorine content of the re-refined waste oil.

(d) To document the compliance status with Condition D.1.13, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack exhaust at least 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).

(e) To document the compliance status with Condition D.1.14, the Permittee shall maintain a daily record of the pressure drop across the baghouse controlling the dryer/mixer. 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).

(f) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.17 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.1(a), D.1.2(a), D.1.3(b), D.1.3(c), and D.1.5(a), shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require the certification that meet the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.2 FACILITY OPERATION CONDITIONS

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

Cold-mix cutback asphalt production and storage piles.

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

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

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

(a) Pursuant to 326 IAC 2-8-4, the VOC emissions from the sum of the binders shall not exceed 62.8 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

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

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

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

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

Note: This source only permitted to use the above three (3) types of the liquid binder.

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

(1) The amount of VOC solvent used in rapid cure cutback asphalt shall not exceed 66.1 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(2) The amount of VOC solvent used in medium cure cutback asphalt shall not exceed 89.7 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(3) The amount of VOC solvent used in slow cure cutback asphalt shall not exceed 251.1 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(4) The VOC solvent allotments in (1) through (3) above shall be adjusted when more than one type of binder is used per twelve (12) consecutive month period with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment factor listed in the table that follows.

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

Type of binder	adjustment factor
cutback asphalt rapid cure	1.053
cutback asphalt medium cure	1.429
cutback asphalt slow cure	4.0

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

D.2.2 Volatile Organic Compound Rules for Asphalt Pavers [326 IAC 8-5-2]

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

(a) penetrating prime coating;

(b) stockpile storage;

(c) application during the months of November, December, January, February, and March.

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

D.2.3 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.1, the Permittee shall record and maintain complete monthly records of the information listed in items (1) through (4) below:

(1) Calendar dates covered in the compliance determination period;

(2) Liquid asphalt binder usage in the production of cold mix asphalt since the last compliance determination period.

(3) VOC solvent content by weight of the liquid binder used in the production of cold mix asphalt since the last compliance determination period.

(4) Amount of VOC solvent used in the production of cold mix asphalt and the amount of VOC emitted since the last compliance determination period.

Records that may be used to document the information included in (1) through (4) may include: delivery tickets, manufacturer's data, material safety data sheets (MSDS), and other documents necessary to verify the type and amount used. Test results of ASTM tests for asphalt cutback and asphalt emulsion may be used to document volatilization.

(b) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

D.2.4 Reporting Requirements

A quarterly summary of the information to document compliance status with Condition D.2.1 - Volatile Organic Compounds (VOC) shall be submitted no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

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

(a) One (1) hot asphalt drum mix dryer, constructed in 2007, with a maximum capacity of 200 tons per hour of raw material, equipped with one (1) 50 million British thermal units (MMBtu) per hour liquefied petroleum fuel fired burner using #2 fuel oil or re-refined waste oil as a backup fuels, processing blast furnace slag and steel slag in the aggregate mixer, equipped with one (1) jet pulse baghouse for particulate matter control, exhausting through one (1) stack, identified as SV-1; [This source does not use shingles in the aggregate mixer.]

(b) One (1) 25,000 gallon asphalt storage tank;

(c) One (1) 12,000 gallon asphalt storage tank;

(d) One (1) 12,000 gallon No. 2 fuel oil storage tank.

Under NSPS Subpart I, the above units are considered affected facilities.

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

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

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

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

(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

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

E.1.2 New Source Performance Standards (NSPS) for Hot Mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12]

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

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

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

The Permittee shall perform the stack testing required under NSPS 40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner to document compliance with Condition E.1.2. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: API Construction Corp
Source Address: 225 South CR 600 W, Angola, Indiana 46703
FESOP Permit No.: F 151-30477-00064

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

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)_____

☐ Report (specify)_____

☐ Notification (specify)_____

☐ Affidavit (specify)_____

☐ Other (specify)_____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Signature:
Printed Name:
Title/Position:
Date:

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

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) EMERGENCY OCCURRENCE REPORT

Source Name: API Construction Corp
Source Address: 225 South CR 600 W, Angola, Indiana 46703
FESOP Permit No.: F 151-30477-00064

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: _____

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

FESOP Quarterly Report

Source Name: API Construction Corp
Source Address: 225 South CR 600 W, Angola, Indiana 46703
FESOP Permit No.: F 151-30477-00064
Facility: One (1) aggregate dryer/mixer
Parameter: Asphalt production
Limit: 1,400,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:_____

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

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

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

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

FESOP Quarterly Report

Source Name: API Construction Corp
Source Address: 225 South CR 600 W, Angola, Indiana 46703
FESOP Permit No.: F 151-30477-00064
Facility: Dryer/Mixer
Parameter: Blast Furnace Slag and Steel Slag Usage
Limit: Blast Furnace Slag and Steel Slag Usage, each shall not exceed 2,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:_____

Month	Column 1		Column 2		Column 1 + Column 2	
	This Month		Previous 11 Months		12 Month Total	
	Blast Furnace	Steel Slag	Blast Furnace	Steel Slag	Blast Furnace	Steel Slag
Month 1						
Month 2						
Month 3						

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

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

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

Source Name: API Construction Corp
Source Address: 225 South CR 600 W, Angola, Indiana 46703
FESOP Permit No.: F 151-30477-00064
Facility: Dryer/mixer burner
Parameter: Single Fuel usages
Limit: Single fuel usage limitation

Fuel Type	Fuel Usage Limit (gallons)
No. 2 Fuel Oil	2,700,105
Refinery Waste Fuel Oil	931,523

YEAR:_____

Fuel Type:_____

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

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

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

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

Source Name: API Construction Corp
Source Address: 225 South CR 600 W, Angola, Indiana 46703
FESOP Permit No.: F 151-30477-00064
Facility: Dryer/mixer burner
Parameter: SO2 emissions from fuel usages
Limit: Multiple fuel usages
SO2 emissions shall not exceed 96.78 tons per twelve consecutive month period.
Sulfur dioxide (SO2) emissions shall be determined using the following equation:

$$S = \frac{L(El)+O(Eo)+W(Ew)}{2{,}000 \text{ lbs/ton}}$$

Where:	Emission Factors:
S = tons of sulfur dioxide emissions from fuels for twelve (12) month consecutive period	El = 0.00002 pounds per gallon of liquefied petroleum fuel oil
L = gallons of liquefied petroleum fuel oil used in last twelve (12) months	Eo = 0.071 pounds per gallon of No. 2 fuel oil
O = gallons of No. 2 fuel oil used in last twelve (12) months	Ew = 0.21 pounds per gallon of Re-refined waste fuel oil
W = gallons of Re-refined waste fuel oil used in last twelve (12) months	

QUARTER:_____ YEAR:_____

		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	SO_2 Emissions 12 months total (Tons)
Month 1	Liquefied fuel Limitation (gallons)				
	No. 2 Fuel Oil (gallons)				
	Refinery Waste Fuel Oil (gallons)				
Month 2	Liquefied fuel Limitation (gallons)				
	No. 2 Fuel Oil (gallons)				
	Refinery Waste Fuel Oil (gallons)				
Month 3	Liquefied fuel Limitation (gallons)				
	No. 2 Fuel Oil (gallons)				
	Refinery Waste Fuel Oil (gallons)				

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

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

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

FESOP Quarterly Report - Single Liquid Binder VOC Solvent

Source Name: API Construction Corp
Source Address: 225 South CR 600 W, Angola, Indiana 46703
FESOP Permit No.: F 151-30477-00064
Facility: Cold-mix (stockpile mix) asphalt manufacturing operations
Parameter: The VOC emissions from the sum of the binders shall not exceed 62.8 tons per twelve (12) consecutive month period.
Limit: Cutback asphalt rapid cure liquid binder usage shall not exceed 66.1 tons of VOC solvent per twelve (12) consecutive month period.
Cutback asphalt medium cure liquid binder usage shall not exceed 89.7 tons of VOC solvent per twelve (12) consecutive month period.
Cutback asphalt slow cure liquid binder usage shall not exceed 251.1 tons of VOC solvent per twelve (12) consecutive month period.

YEAR:_____

Month	Type of Liquid binder	Solvent Usage This Month (tons)	Divisor	VOC emissions This Month (tons) for each solvent	VOC emissions This Month (tons)	VOC emissions Previous 11 Months (tons)	This month + Previous 11months =VOC emissions 12 Month Total (tons)
Month 1	Cutback asphalt rapid cure		1.053				
	Cutback asphalt medium cure		1.429				
	Cutback asphalt slow cure		4.0				
Month 2	Cutback asphalt rapid cure		1.053				
	Cutback asphalt medium cure		1.429				
	Cutback asphalt slow cure		4.0				
Month 3	Cutback asphalt rapid cure		1.053				
	Cutback asphalt medium cure		1.429				
	Cutback asphalt slow cure		4.0				

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

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

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

Source Name: API Construction Corp
Source Address: 225 South CR 600 W, Angola, Indiana 46703
FESOP Permit No.: F 151-30477-00064

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

Page 1 of 2

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

Attachment A

FEDERALLY ENFORCEABLE
STATE OPERATING PERMIT RENEWAL
OFFICE OF AIR QUALITY

API Construction Corporation
225 South CR 600 W
Angola, Indiana 46703

F151-30477-00064

ASPHALT PLANT SITE FUGITIVE DUST CONTROL PLAN

(a) Truck cargoes will be covered during transit to reduce fugitive dust emissions from paved roadways. If fugitive dust emissions from any paved or unpaved roadways are observed, API Corp will use wet suppression or other methods to control these emissions.

(b) Fugitive particulate matter emissions from parking lots and yards shall be controlled by applying water when necessary

(c) Fugitive particulate matter emissions from storage piles and the conveying/handling of raw materials shall be controlled by applying water when necessary.

Attachment B

FEDERALLY ENFORCEABLE
STATE OPERATING PERMIT RENEWAL
OFFICE OF AIR QUALITY

API Construction Corporation
225 South CR 600 W
Angola, Indiana 46703

Title 40: Protection of Environment

PART 60—NEW SOURCE PERFORMANCE STANDARDS

SUBPART I - STANDARDS OF PERFORMANCE FOR HOT MIX ASPHALT FACILITIES

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart I—Standards of Performance for Hot Mix Asphalt Facilities

§ 60.90 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

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

§ 60.91 Definitions.

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

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

[51 FR 12325, Apr. 10, 1986]

§ 60.92 Standard for particulate matter.

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

(1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).

(2) Exhibit 20 percent opacity, or greater.

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

§ 60.93 Test methods and procedures.

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

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

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

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

[54 FR 6667, Feb. 14, 1989]

Indiana Department of Environmental Management
Office of Air Quality

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

Source Background and Description

Source Name:	**API Construction Corporation**
Source Location:	**225 South CR 600 W, Angola, Indiana 46703**
County:	**Steuben**
SIC Code:	**2951 (Asphalt Paving Mixtures and Blocks)**
Permit Renewal No.:	**F151-30477-00064**
Permit Reviewer:	**Renee Traivaranon**

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from API Construction Corporation relating to the operation of a stationary hot asphalt drum mix plant. On April 26, July 26 and August 31, 2011, API Construction Corporation submitted an application and additional information to the OAQ requesting to renew its operating permit.

History

API Construction Corporation was issued a first New Source Review and Federally Enforceable State Operating Permit No. F151-24031-00064 on May 18, 2007. The company requested to renew its FESOP without adding any new units to the permit. However, the company requested to add the use of blast furnace slag and steel slag in the aggregate and indicated that they will not use shingles in the process.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

(a) One (1) hot asphalt drum mix dryer, constructed in 2007, with a maximum capacity of 200 tons per hour of raw material, equipped with one (1) 50 million British thermal units (MMBtu) per hour liquefied petroleum fuel fired burner using #2 fuel oil or re-refined waste oil as a backup fuels, processing blast furnace slag and steel slag in the aggregate mixer, equipped with one (1) jet pulse baghouse for particulate matter control, exhausting through one (1) stack, identified as SV-1;

[This source does not use shingles in the aggregate mixer.]

(b) One (1) 25,000 gallon asphalt storage tank;

(c) One (1) 12,000 gallon asphalt storage tank;

(d) One (1) 12,000 gallon No. 2 fuel oil storage tank.

Under NSPS Subpart I, the above units are considered affected facilities.

Emission Units and Pollution Control Equipment Constructed and/or Operated without a Permit

There are no unpermited emission units during this review.

Emission Units and Pollution Control Equipment Removed From the Source

No emission units have been removed from the source at the time of this review.

Insignificant Activities

The source also consists of the following insignificant activities:

(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:

(1) One (1) No. 2 distillate fuel oil fired hot oil heater, with a maximum rated capacity of 1.0 million British thermal units per hour.

(b) Combustion source flame safety purging on startup.

(c) Paved and unpaved roads and parking lots with public access.

Existing Approvals

This source has the New Source Review and Federally Enforceable State Operating Permit No. F151-24031-00064, issued on May 18, 2007 and no other approval or revision has been issued for this source since then.

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

Enforcement Issue

There are no enforcement actions pending for this application.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Steuben County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.

[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.
Unclassifiable or attainment effective April 5, 2005, for PM2.5.

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

(b) $PM_{2.5}$
Steuben County has been classified as attainment for $PM_{2.5}$. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for $PM_{2.5}$ emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct $PM_{2.5}$ significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct $PM_{2.5}$ and SO_2 emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) Other Criteria Pollutants
Steuben County has been classified as attainment or unclassifiable in Indiana for all other 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, or 326 IAC 2-7, however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions, from the affected facilities to which the New Source Performance Standard is applicable, are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Unrestricted Potential Emissions*	
Pollutant	Tons/year
PM	24,626.2
PM_{10}	5,724.3
$PM_{2.5}$	1,327.7
SO_2	596.4
VOC	21,097.7
CO	116.8
NO_x	48.8
GHGs as CO_2e	36,061.8
Single HAP	1,894.9 (Xylene)
Total HAP	5,513.3

*Appendix A.1 of this TSD reflects the unrestricted potential emissions of the source.

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10, PM2.5, SO2, VOC, and CO is greater than 100 tons per year each. However, the Permittee has agreed to continue limit the source's each criteria pollutant emissions to less than Title V levels, therefore the Permittee will be issued a FESOP Renewal.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of NOx is less than 100 tons per year.

(c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs is less than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year.

(d) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is greater than twenty-five (25) tons per year. However, the Permittee has agreed to continue limit the source's single HAP emissions and total HAP emissions below Title V levels. Therefore, the Permittee will be issued a FESOP Renewal.

Potential to Emit After Issuance

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

	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
Process/ Emission Unit	PM	PM10*	PM2.5**	SO_2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Worst Single HAP
Ducted Emissions										
Dryer/Mixer[(1)] (Process)	167.97	70.0	85.7	40.6	38.5	22.4	91	23,276	7.46	2.17 formaldehyde
Fuel Combustion[(2)] (worst case)	89.4	71.26	71.26	95.85	33.73	2.47	18.9	33,276.7	6.35	6.15 HCl
Dryer/Mixer Slag Processing	0.0	0.0	0.0	0.93	0.0	0.0	0.0	0.0	0.0	0
Hot Oil Heaters Fuel Combustion	0.06	0.10	0.10	2.22	0.63	0.01	0.16	707.09	0.0	0.002 hexane
Worst Case Emissions	**168.03**	**71.36**	**85.8**	**99.0**	**39.1**	**22.41**	**91.2**	**33,983.8**	**7.5**	**6.15 HCl**
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.78	0.78	0.78	0	0	11.99	2.02	0	0.2	0.06 formaldehyde
Material Storage Piles	0.84	0.30	0.30	0	0	0	0	0	0	0
Material Processing and Handling	4.52	2.14	0.32	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	18.62	6.52	6.52	0	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	49.71	12.67	1.27	0	0	0	0	0	0	0
Cold Mix Asphalt Production[(3)]	0	0	0	0	0	62.78	0	0	16.4	5.65 xylenes

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
	PM	PM10*	PM2.5**	SO_2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Worst Single HAP
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl.	0	0	negl.	negl.
Total Fugitive Emissions	**74.47**	**22.40**	**9.18**	**0**	**0**	**74.77**	**2.02**	**0.0**	**16.58**	**5.65 xylenes**
Total PTE of Entire Source	**242.5**	**93.8**	**95.0**	**99.0**	**39.13**	**97.17**	**93.2**	**33,983.8**	**24.04**	**6.15 HCl**
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

negl. = negligible
*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".
**$PM_{2.5}$ listed is direct $PM_{2.5}$.
(1) Limited PTE based upon annual production limit and lb/ton emission limits to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP).
(2) Limited PTE based upon annual production and fuel usage limits to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP).
(3) Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP).

(a) FESOP Status
This source is still an existing Title V minor stationary source, 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).

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

(1) The asphalt production rate shall not exceed 1,400,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

The asphalt production rate has been adjusted in this renewal. This is a Title I change.

Note: No addition emission units are added or removed from the source. However, the source requested to add 2,500 tons per year of each steel slag and blast furnace slag to the process. Therefore, the production rate has been adjusted accordingly to keep the PTE of the source to below Title V major source threshold level. (See also fuel usages limits below.)

(2) PM10 emissions from the dryer/mixer shall not exceed 0.100 pounds per ton of asphalt produced.

This is an existing limit for this source.

(3) PM2.5 emissions from the dryer/mixer shall not exceed 0.122 pounds per ton of asphalt produced.

This is a new limit for the source. This source was issued the FESOP in 2007 and no other revisions have been issued since then, but the requirements of PM2.5 became effective in 2008. (See US EPA promulgation of PSD for PM2.5 in the County Attainment Status above).

(4) CO emissions from the dryer/mixer shall not exceed 0.13 pounds per ton of asphalt produced.

This is an existing limit for this source.

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

Note: There is no need to limit VOC emissions because the unlimited PTE is already less than 100 tons per year.

(5) Fuel and Slag Content Limits

(i) The sulfur content of No. 2 fuel oil shall not exceed 0.5 percent by weight.

(ii) The sulfur content of the re-refined waste oil shall not exceed 1.4 percent by weight.

(iii) The chlorine content of the re-refined waste oil shall not exceed 0.2 percent by weight.

(iv) Hydrogen chloride emissions from the dryer/mixer shall not exceed 0.0132 pounds of HCl per gallon of re-refined waste oil burned.

(v) The sulfur content of the blast furnace slag shall not exceed 1.5 percent by weight.

(vi) SO2 emissions from the dryer/mixer shall not exceed 0.74 pounds of SO2 per ton of Blast Furnace Slag processed.

(viii) The sulfur content of the steel slag shall not exceed 0.66 percent by weight.

(viiii) SO2 emissions from the dryer/mixer shall not exceed 0.0014 pounds of SO2 per ton of steel slag processed.

Note: The fuel content limits are existing limits, but slag content limits are new since the source requested to add blast furnace slag and steel slag for 2,500 tons per year each to the process.

The following are Title I changes.

(6) Single Fuel and Slag Usage Limitations

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

(i) No. 2 fuel oil usage shall not exceed 2,700,105 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(ii) Re-refined waste oil usage shall not exceed 931,523 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(iii) Blast furnace slag and steel usage shall not exceed 2,500 tons per twelve (12) consecutive month period each, with compliance determined at the end of each month.

Note: There is some reduction to the fuel usage limitation to keep PTE SO2 emissions to less than Title V threshold since the slag has significant amount of SO2 emissions.

The PTE of unlimited SO2 emissions from the liquefied petroleum fuel usage is less than 0.05 tons per year, therefore, the fuel usage limitation will not be required when only this single fuel is used.

(7) Multiple Fuel Usage Limitations

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

SO2 emissions from the dryer/mixer burner shall not exceed 96.78 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

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

(8) Cold Mix Asphalt

Pursuant to 326 IAC 2-8-4, the VOC emissions from cold-mix (cutback) asphalt production shall be limited as follows:

(i) VOC emissions from the sum of the binders shall not exceed 62.8 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

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

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

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

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

Note: This source only permitted to use the above three (3) types of the liquid binder.

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

(A) The amount of VOC solvent used in rapid cure cut back asphalt shall not exceed 66.1 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(B) The amount of VOC solvent used in medium cure cut back asphalt shall not exceed 89.7 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(C) The amount of VOC solvent used in slow cure cut back asphalt shall not exceed 251.1 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(D) The VOC solvent allotments in (a) through (c) above shall be adjusted when more than one type of binder is used per twelve (12) consecutive month period with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment factor listed in the table that follows.

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

Type of Liquid Binder	Adjustment Factor[(1)]
Cutback Asphalt Rapid Cure	1.053
Cutback Asphalt Medium Cure	1.429
Cutback Asphalt Slow Cure	4.0

[(1)]There is minor change in adjustment Factor in this permit.

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

Note: Liquid binder usage is increase for the cutback asphalt to accommodate for the VOC emissions reduction from the hot mix asphalt production reduction. This is a Title I change.

(b) PSD Minor Source
This source is an existing PSD minor stationary source, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be 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 not exceed 1,400,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. There is a minor adjustment to the production to allow for the slag usages as mentioned above.

(2) PM emissions from the dryer/mixer shall not exceed 0.240 pounds per ton of asphalt produced. This is an existing emissions for the PM emission rate.

Compliance with these limits, combined with the limited potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit PM to less than 250 tons per 12 consecutive month period, and shall render 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70 Permits) not applicable.

Federal Rule Applicability

New Source Performance Standards (NSPS)

(a) New Source Performance Standard (NSPS) for Hot-mix Asphalt Facilities, (40 CFR 60, Subpart I) (326 IAC 12) requirements apply to drum hot-mix asphalt facility, constructed after June 11, 1973. Therefore, it apply to this hot-mix drum asphalt facilities constructed in 2007.

The units subject to this rule include the following:

(1) Dryers
(2) Systems for screening, handling, storing, and weighing hot aggregate
(3) Systems for loading, transferring, and storing mineral filler
(4) Systems for mixing hot mix asphalt
(5) The loading, transfer, and storage systems associated with emission control systems

Nonapplicable portions of the NSPS will not be included in the permit. This source is subject to the following portions of Subpart I.

(1) 40 CFR 60.90;

(2) 40 CFR 60.91;

(3) 40 CFR 60.92;

(4) 40 CFR 60.93.

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

(b) New Source Performance Standard for Volatile Organic Liquid Storage Vessels, (40 CFR 60 Subpart Kb) (326 IAC 12), requirements apply to each storage vessel, constructed after July 23, 1984, with a capacity greater than or equal to 75 cubic meters (m^3) (19,812 gallons) that is used to store volatile organic liquids (VOL) but this rule does not apply to storage vessels with a capacity greater than 75 m^3 (19,812 gallons) but less than 151 m^3 (39,890 gallons) storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

Therefore, the 40 CFR 60, Subpart Kb has not been included in the permit for the following reasons:

(1) This rule does not apply to the 12,000 gallon asphalt storage tank and the 12,000 gallon No. 2 fuel oil storage tank, since each has a storage capacity of less than 19,812 gallons.

(2) This subpart does not apply to the 25,000 gallons asphalt storage tank, although it has a storage capacity greater than 75 cubic meters, but less than 151 cubic meters, this liquid asphalt stored in the tank has a maximum true vapor pressure of less than 15.0 kPa.

(c) New Source Performance Standard for Asphalt Processing and Asphalt Roofing Manufacture, 40 CFR 60, Subpart UU (326 IAC 12) requirements are not included in the permit, because this stationary drum hot-mix asphalt plant is not an asphalt roofing manufacture plant, since it does not produce asphalt roofing products.

(d) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(e) National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart LLLLL (326 IAC 20-71) requirements apply to asphalt processing facility or an asphalt roofing manufacturing facility, as defined in §63.8698, that is a major source of hazardous air pollutants (HAP) emissions, or is located at, or is part of a major source of HAP emissions. This stationary drum hot-mix asphalt plant is not an asphalt processing facility or asphalt roofing manufacture operation as defined in 63.8698 and it is not a major source of HAPs, nor it is a part of a major source of HAP emissions, therefore, this 40 CFR 63, Subpart LLLLL is not included in this permit.

(f) National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, 40 CFR 63, Subpart CCCCCC (326 IAC 20) requirements are not included in this permit because the source does not have a gasoline dispensing facilities.

(g) National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ, requirements are not included in the permit for the dryer/mixer burner and the hot oil heater, even through this existing source is an area source of hazardous air pollutants (HAP), as defined in §63.2, the dryer/mixer burner and the hot oil heater are not boilers, as define in 40 CFR 63.11237.

(h) National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart AAAAAAA (326 IAC 20) requirements are not included in the permit, even though the stationary drum hot-mix asphalt plant is an area source of hazardous air pollutant (HAP) emissions, as defined in §63.2, it does not meet the definition of an asphalt processing facility or asphalt roofing manufacture operation as defined in 63.11566, since it does not engage in the preparation of asphalt flux or asphalt roofing materials.

(i) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit.

Compliance Assurance Monitoring (CAM)

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

State Rule Applicability - Entire Source

(a) 326 IAC 1-6-3 (Preventive Maintenance Plan)
The source is subject to 326 IAC 1-6-3, because this source is operated under the Federally Enforceable State Operating Permit (FESOP), and required the use of a control device to limit the particulate emissions of PM, PM10 and PM2.5 to less than PSD and TV thresholds.

(b) 326 IAC 1-7 (Stack Height)
The requirements of 326 IAC 1-7 (Stack Height) are not included in the permit, although the unlimited and uncontrolled PM10 and SO2 emissions from this existing source, are each greater than one hundred (100) tons per year, asphalt concrete plants are specifically exempted under 326 IAC 1-7-5(c).

(c) 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))
PSD applicability is discussed under "Potential to Emit after Issuance" section above.

(d) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit HAPs, from this source is greater than ten (10) tons per year for any single HAP and greater than twenty-five (25) tons per year of a combination of HAPs. However, the source has agreed to continue to limit potential HAPs emissions from these facilities to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) do not apply, See the "Potential to Emit after Issuance" section above.

(e) 326 IAC 2-6 (Emission Reporting)
This source is not subject to 326 IAC 2-6 (Emission Reporting) because it is not required to have an operating permit pursuant to 326 IAC 2-7 (Part 70); it is not located in Lake, Porter, or LaPorte County, and its potential to emit lead is less than 5 tons per year. Therefore, this rule does not apply.

(f) 326 IAC 2-8-4 (FESOP)
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 Section above.

(g) 326 IAC 5-1 (Opacity Limitations)
This source is subject to the opacity limitations specified in 326 IAC 5-1-2 (Opacity Limitations). Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

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

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

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

(i) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is still subject to the requirements of 326 IAC 6-5, because the source potential fugitive particulate emissions greater than twenty-five (25) tons per year. Therefore, pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall continue to be controlled according to the Fugitive Particulate Emissions Control Plan, which is included as an Attachment A to the permit.

(j) 326 IAC 6.5 PM Limitations Except Lake County
This source is located in Steuben Country and is not subject to 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

(k) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.

(l) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

State Rule Applicability – Individual Facilities

Drum Hot-Mix Asphalt Plant:

(a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The aggregate mixer and drying operation is not subject to the 326 IAC 6-3-2 limitation since the PM emission limitation established by 326 IAC 2-2 and 326 IAC 12, 40 CFR 60, Subpart I is more stringent than 326 IAC 6-3-2 requirement.

(b) 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
This dryer burner is subject to 326 IAC 326 IAC 7-1.1 because its SO_2 PTE is greater than 25 tons/year. Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), the Permittee shall comply with the following:

(a) The sulfur dioxide (SO_2) emissions from the dryer/mixer burner shall not exceed 0.5 pounds per MMBtu when using distillate oil.

(b) The sulfur dioxide (SO_2) emissions from the dryer/mixer burner shall not exceed 1.6 pounds per MMBtu when using re-refined waste oil.

Note: No. 2 fuel oil is considered distillate oil, and re-refined waste oil is considered residual oil.

(c) 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements)
Pursuant to 326 IAC 7-2-1(c), the source shall submit records of sulfur content, heat content, fuel consumption, and sulfur dioxide emission rates based on a calendar-month average, to the Office of Air Quality upon request.

(d) 326 IAC 8-1-6 (General Reduction Requirements for New Facilities)
The unlimited potential VOC emissions from the existing dryer/mixer are greater than twenty-five (25) tons per year. However, the source has opted to limit the potential VOC emissions as follows:

(1) The hot-mix asphalt production rate shall not exceed 1,400,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(2) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced. There is an existing emission limit for this source.

Compliance with these limits shall limit the potential VOC emissions from the existing dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 BACT not applicable.

Cold-Mix Asphalt Production Operation:

(a) 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving)
This rule applies to any paving application constructed after January 1, 1980 located anywhere in the state. Pursuant to this rule, no person shall cause or allow the use of cutback asphalt or asphalt emulsion containing more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:

(a) Penetrating prime coating;

(b) Stockpile storage;

(c) Application during the months of November, December, January, February and March.

This source uses cutback asphalt to manufacture stockpile mix on a limited basis. The cutback asphalt contains less than 7% oil distillate by volume. It is only manufactured during the winter months and is in compliance with 326 IAC 8-5-2.

Storage Tanks:

(a) 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)
All three storage tanks at this source are not subject to 326 IAC 8-4-3 because the tanks have storage capacities less than 39,000 gallons each.

(b) 326 IAC 8-1-6 (General Reduction Requirements for New Facilities)
The unlimited potential VOC emissions from each tank is negligible, therefore, the requirements of 326 IAC 8-1-6 are not applicable.

(c) 326 IAC 8
No other 326 IAC 8 requirements are applicable to these tanks.

Compliance Determination and Monitoring Requirements

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

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

arise through a source's failure to take the appropriate corrective actions within a specific time period.

(a) The compliance determination and testing requirements applicable to this source are as follows:

(1) In order to comply with the PM, PM10, and PM2.5 limitations in the permit, the baghouse for the dryer/mixer, shall continue to be in operation and control emissions from the dryer/mixer at all times when the dryer/mixer is in operation.

(2) Fuel characteristics and single fuel usage limits will be used to determine compliance with the FESOP and Sulfur Dioxide Emissions limitations.

(3) The SO2 emission limitations from multiple fuel usages shall be determined using the following equations:

Sulfur Dioxide emission calculation from Multiple Fuel Usage

$$S = \frac{L(El)+O(Eo)+W(Ew)}{2{,}000 \text{ lbs/ton}}$$

Where:

S = tons of sulfur dioxide emissions from fuels for twelve (12) month consecutive period

L = gallons of liquefied petroleum fuel oil used in last twelve (12) months

O = gallons of No. 2 fuel oil used in last twelve (12) months

W = gallons of Re-refined waste fuel oil used in last twelve (12) months

Emission Factors:

E_l = 0.00002 pounds per gallon of liquefied petroleum fuel oil

E_O = 0.071 pounds per gallon of No. 2 fuel oil

E_w = 0.21 pounds per gallon of Re-refined waste fuel oil

Note: The potential to emit SO2 from both slag usage limitations are less than 1% of fuel usage limitation, therefore, it will not be included in this SO2 emissions determination. However, the company is required to keep the record and report the amount of the slag usage.

(4) The waste oil characteristics (i.e., chlorine, sulfur and ash) will be used to determined compliance with the HAP limitations.

(5) The source is required to test the dryer/mixer burner as follows:

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing
Dryer/Mixer	Baghouse	5 yr from the recent valid testing(1)	PM, PM10, PM2.5	Once every 5 years.

Note: (1) Last test was on September 17, 2009.
SO2 emissions, from the slag usages requested by this source, only contribute to less than 1% for SO2, therefore, it is not required to do testing at this time. However, record keeping and reporting will be required for these usages.

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

Control	Parameter	Frequency	Range	Excursions and Exceedances
Dryer/mixer baghouse stack exhaust (SV-1)	Water Pressure Drop	Daily	as indicated in the last valid stack testing	Response Steps
	Visible Emissions		Normal-Abnormal	

These monitoring conditions are necessary because the baghouse for the dryer/mixer must operate properly to ensure compliance with 40 CFR 60, Subpart I, and to limit PM10, PM2.5 under 326 IAC 2-8 (FESOP) including PM to render 326 IAC 2-7 (Part 70) 326 IAC 2-8 (FESOP) not applicable.

Recommendation

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

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

An application for the purposes of this review was received on April 26, 2011. Additional information about the slag was received on July 26, 2011.

Conclusion

The operation of this hot mix asphalt plant shall be subject to the conditions of the attached FESOP Renewal No. F151-30477-00064.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Ms. Renee Traivaranon 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) (234-5615) or toll free at 1-800-451-6027 extension 4-5615.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 4670
Permit Number: F151-30477-00064
Reviewer: Renee Traivaranon

Asphalt Plant Maximum Capacity - Drum Mix

Maximum Hourly Asphalt Production =	200	ton/hr									
Maximum Annual Asphalt Production =	1,752,000	ton/yr									
Maximum Annual Blast Furnace Slag Usage =	735,840	ton/yr	1.5	% sulfur							
Maximum Annual Steel Slag Usage =	735,840	ton/yr	0.66	% sulfur							
Maximum Dryer Fuel Input Rate =	50.0	MMBtu/hr									
Natural Gas Usage =	0	MMCF/yr									
No. 2 Fuel Oil Usage =	3,128,571	gal/yr, and	0.50	% sulfur							
No. 4 Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur							
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur							
Propane Usage =	0	gal/yr, and	0.20	gr/100 ft3 sulfur							
Liquefied petroleum fuel Usage =	4,496,920	gal/yr, and	0.22	gr/100 ft3 sulfur							
Re-refined Waste Oil Usage =	3,128,571	gal/yr, and	1.40	% sulfur	3.00	% ash	0.200	% chlorine,	0.000	% lead	
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production									
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production									
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production									
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production									
Unlimited CO Dryer/Mixer Emission Factor =	0.13	lb/ton of asphalt production									
Unlimited Blast Furnace Slag SO2 Dryer/Mixer Emission Factor =	0.74	lb/ton of slag processed									
Unlimited Steel Slag SO2 Dryer/Mixer Emission Factor =	0.0014	lb/ton of slag processed									

Unlimited/Uncontrolled Emissions

	Unlimited/Uncontrolled Potential to Emit (tons/year)										
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants		
Process Description	**PM**	**PM10**	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**	**CO_2e**	**Total HAPs**	**Worst Case HAP**	
Ducted Emissions											
Dryer Fuel Combustion (worst case)	300.34	239.34	239.34	321.93	33.73	2.47	18.89	35,354.70	21.17	20.65	(hydrogen chloride)
Dryer/Mixer (Process)	24,528.00	5,694.00	1,314.00	50.81	48.18	28.03	113.88	29,128.75	9.34	2.72	(formaldehyde)
Dryer/Mixer Slag Processing (worst case)	0	0	0	272.26	0	0	0	0.00	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.06	0.10	0.10	2.22	0.63	0.01	0.16	707.09	0.002	0.002	(hexane)
Worst Case Emissions*	**24,528.06**	**5,694.10**	**1,314.10**	**596.41**	**48.81**	**28.04**	**114.04**	**36,061.80**	**21.17**	**20.65**	(hydrogen chloride)
Fugitive Emissions											
Asphalt Load-Out, Silo Filling, On-Site Yard	0.97	0.97	0.97	0	0	15.01	2.52	0	0.25	0.08	(formaldehyde)
Material Storage Piles	1.46	0.51	0.51	0	0	0	0	0	0	0	
Material Processing and Handling	5.66	2.68	0.41	0	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	27.80	10.15	10.15	0	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	62.20	15.85	1.59	0	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	21,054.66	0	0	5,491.83	1,894.92	(xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0	0.00	0.00	(xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0	
Total Fugitive Emissions	**98.09**	**30.16**	**13.62**	**0**	**0.00**	**21,069.67**	**2.52**	**0.00**	**5,492.08**	**1,894.92**	(xylenes)
Totals Unlimited/Uncontrolled PTE	**24,626.15**	**5,724.27**	**1,327.73**	**596.41**	**48.81**	**21,097.70**	**116.56**	**36,061.80**	**5,513.25**	**1,894.92**	(xylenes)

negl = negligible
Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.
*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Worst Case Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion
(1) emission factor of Butane is used for Liquefied petroleum fuel for this source
Fuel component percentages have not been changed and are the same as originated in the First FESOP.

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: F151-30477-00064
Reviewer: Renee Traivaranon

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, Liquefied petroleum fuel , or Re-refined Waste Oil in the dryer/mixer at the source.

Maximum Capacity

Maximum Hourly Asphalt Production =	200	ton/hr								
Maximum Annual Asphalt Production =	1,752,000	ton/yr								
Maximum Fuel Input Rate =	50	MMBtu/hr								
Natural Gas Usage =	0	MMCF/yr								
No. 2 Fuel Oil Usage =	3,128,571	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur						
Propane Usage =	0	gal/yr, and	0.20	gr/100 ft3 sulfur						
Liquefied petroleum fuel Usage =	4,496,920	gal/yr, and	0.22	gr/100 ft3 sulfur						
Re-refined Waste Oil Usage =	3,128,571	gal/yr, and	1.40	% sulfur	3.00	% ash	0.200	% chlorine,	0.000	% lead

Unlimited/Uncontrolled Emissions

	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Liquefied petroleum fuel (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Liquefied petroleum fuel(1) (tons/yr)	Used/ Waste Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	7.0	7.815	0.5	0.6	192.0	0.00	3.13	0.00	0.00	0.000	1.349	300.34	**300.34**
PM10/PM2.5	7.6	3.3	8.3	9.315	0.5	0.6	153	0.00	5.16	0.00	0.00	0.000	1.349	239.34	**239.34**
SO2	0.6	71.0	75.0	78.5	0.020	0.020	205.8	0.00	111.06	0.00	0.00	0.000	0.045	321.93	**321.93**
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	0.00	31.29	0.00	0.00	0.00	33.73	29.72	**33.73**
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	0.00	0.31	0.00	0.00	0.00	2.47	1.56	**2.47**
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	0	7.82	0.00	0.00	0.00	18.89	7.82	**18.89**
Hazardous Air Pollutant															
HCl							13.2							20.65	**20.65**
Antimony			5.25E-03	5.25E-03			negl			0.00E+00	0.00E+00			negl	**0.0E+00**
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	0.0E+00	8.76E-04	0.00E+00	0.00E+00			1.72E-01	**1.7E-01**
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	0.0E+00	6.57E-04	0.00E+00	0.00E+00			negl	**6.6E-04**
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	0.0E+00	6.57E-04	0.00E+00	0.00E+00			1.45E-02	**1.5E-02**
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	0.0E+00	6.57E-04	0.00E+00	0.00E+00			3.13E-02	**3.1E-02**
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	0.0E+00		0.00E+00	0.00E+00			3.29E-04	**3.3E-04**
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0	0.0E+00	1.97E-03	0.00E+00	0.00E+00			0.0E+00	**0.00**
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	0.0E+00	1.31E-03	0.00E+00	0.00E+00			1.06E-01	**0.11**
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				0.0E+00	6.57E-04	0.00E+00	0.00E+00				**6.6E-04**
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	0.0E+00	6.57E-04	0.00E+00	0.00E+00			1.72E-02	**0.017**
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	0.0E+00	3.29E-03	0.00E+00	0.00E+00			negl	**3.3E-03**
1.1.1-Trichloroethane			2.36E-04	2.36E-04						0.00E+00	0.00E+00				**0.0E+00**
1,3-Butadiene															**0.0E+00**
Acetaldehyde															**0.0E+00**
Acrolein															**0.0E+00**
Benzene	2.1E-03		2.14E-04	2.14E-04				0.0E+00		0.00E+00	0.00E+00				**0.0E+00**
Bis(2-ethylhexyl)phthalate							2.2E-03							3.44E-03	**3.4E-03**
Dichlorobenzene	1.2E-03						8.0E-07	0.0E+00						1.25E-06	**1.3E-06**
Ethylbenzene			6.36E-05	6.36E-05						0.00E+00	0.00E+00				**0.0E+00**
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				0.0E+00	9.54E-02	0.00E+00	0.00E+00				**0.095**
Hexane	1.8E+00							0.00							**0.000**
Phenol							2.4E-03							3.75E-03	**3.8E-03**
Toluene	3.4E-03		6.20E-03	6.20E-03				0.0E+00		0.00E+00	0.00E+00				**0.0E+00**
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0.00E+00	0.00E+00			6.12E-02	**6.1E-02**
Polycyclic Organic Matter		3.30E-03							5.16E-03						**5.2E-03**
Xylene			1.09E-04	1.09E-04						0.00E+00	0.00E+00				**0.0E+00**
							Total HAPs	**0.00**	**0.11**	**0.00**	**0.00**	**0**	**0**	**21.06**	**21.17**

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0905 MMBtu]
Liquefied petroleum fuel Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0974 MMBtu]
Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
Sources of AP-42 Emission Factors for fuel combustion:
Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
No. 2, No.4, and No.6 Fuel Oil:AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
Propane and Liquefied petroleum fuel AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.
(1) emission factor of Butane is used for Liquefied petroleum fuel for this source

Abbreviations

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

Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: F151-30477-00064
Reviewer: Renee Traivaranon

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, Liquefied petroleum fuel , or Re-refined Waste Oil in the dryer/mixer at the source.

Maximum Capacity

Maximum Hourly Asphalt Production =	200	ton/hr								
Maximum Annual Asphalt Production =	1,752,000	ton/yr								
Maximum Fuel Input Rate =	50	MMBtu/hr								
Natural Gas Usage =	0	MMCF/yr								
No. 2 Fuel Oil Usage =	3,128,571	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur						
Refinery Blend, and Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur						
Propane Usage =	0	gal/yr, and	0.20	gr/100 ft3 sulfur						
Liquefied petroleum fuel Usage =	4,496,920	gal/yr, and	0.22	gr/100 ft3 sulfur						
Re-refined Waste Oil Usage =	3,128,571	gal/yr, and	1.40	% sulfur	3.00	% ash	0.200	% chlorine,	0.000	% lead

Unlimited/Uncontrolled Emissions

	Emission Factor (units)						
CO2e Fraction	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Liquefied petroleum fuel (lb/kgal)	Used/Waste Oil (lb/kgal)
CO2	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89
N2O	2.2	0.26	0.19	0.53	0.9	0.9	0.18

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO_2	1
Methane	CH_4	21
Nitrous oxide	N_2O	310

	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
CO2e Fraction	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Liquefied petroleum fuel (tons/yr)	Used/ Waste Oil (tons/yr)
CO2	0.00	35,198.63	0.00	0.00	0.00	32617.80	34,452.07
CH4	0.00	1.43	0.00	0.00	0.00	1.50	1.40
N2O	0.00	0.41	0.00	0.00	0.00	2.02	0.28
Total	0.00	35,200.47	0.00	0.00	0.00	32,621.33	34,453.75
CO2e Equivalent Emissions (tons/yr)	0.00	35,354.70	0.00	0.00	0.00	33,276.66	34,568.69

CO2e for Worst Case Fuel* (tons/yr)
35,354.70

Methodology
Fuel Usage from TSD Appendix A.1, page 1 of 14.
Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]
Liquefied petroleum fuel Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2
No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
No.4 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
Residual (No. 5 or No. 6) Fuel Oil: Emission Factor for CO2 from 40 CFR Part 98 Subpart C, Table C-1, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CH4 and N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
Propane: Emission Factor for CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CO2 and N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
Liquefied petroleum fuel : Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
Waste Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions
Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]
Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).
(1) emission factor of Butane is used for Liquefied petroleum fuel for this source

Abbreviations
PTE = Potential to Emit
CO2 = Carbon Dioxide
CH4 = Methane
N2O = Nitrogen Dioxide

Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer Process Emissions

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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

Maximum Hourly Asphalt Production =	200	ton/hr
Maximum Annual Asphalt Production =	1,752,000	ton/yr

	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	**Worse Case PTE**
PM*	28	28	28	24528	24528	24528	**24528**
PM10*	6.5	6.5	6.5	5694	5694	5694	**5694**
PM2.5*	1.5	1.5	1.5	1314	1314	1314	**1314**
SO2**	0.0034	0.011	0.058	3.0	9.6	50.8	**50.8**
NOx**	0.026	0.055	0.055	22.8	48.2	48.2	**48.2**
VOC**	0.032	0.032	0.032	28.0	28.0	28.0	**28.0**
CO***	0.13	0.13	0.13	113.9	113.9	113.9	**113.9**
Hazardous Air Pollutant							
HCl			2.10E-04			1.84E-01	**0.18**
Antimony	1.80E-07	1.80E-07	1.80E-07	1.58E-04	1.58E-04	1.58E-04	**1.58E-04**
Arsenic	5.60E-07	5.60E-07	5.60E-07	4.91E-04	4.91E-04	4.91E-04	**4.91E-04**
Beryllium	negl	negl	negl	negl	negl	negl	**0.00E+00**
Cadmium	4.10E-07	4.10E-07	4.10E-07	3.59E-04	3.59E-04	3.59E-04	**3.59E-04**
Chromium	5.50E-06	5.50E-06	5.50E-06	4.82E-03	4.82E-03	4.82E-03	**4.82E-03**
Cobalt	2.60E-08	2.60E-08	2.60E-08	2.28E-05	2.28E-05	2.28E-05	**2.28E-05**
Lead	6.20E-07	1.50E-05	1.50E-05	5.43E-04	1.31E-02	1.31E-02	**1.31E-02**
Manganese	7.70E-06	7.70E-06	7.70E-06	6.75E-03	6.75E-03	6.75E-03	**6.75E-03**
Mercury	2.40E-07	2.60E-06	2.60E-06	2.10E-04	2.28E-03	2.28E-03	**2.28E-03**
Nickel	6.30E-05	6.30E-05	6.30E-05	0.06	0.06	0.06	**0.06**
Selenium	3.50E-07	3.50E-07	3.50E-07	3.07E-04	3.07E-04	3.07E-04	**3.07E-04**
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.04	0.04	0.04	**0.04**
Acetaldehyde			1.30E-03			1.14	**1.14**
Acrolein			2.60E-05			2.28E-02	**2.28E-02**
Benzene	3.90E-04	3.90E-04	3.90E-04	0.34	0.34	0.34	**0.34**
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.21	0.21	0.21	**0.21**
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	2.72	2.72	2.72	**2.72**
Hexane	9.20E-04	9.20E-04	9.20E-04	0.81	0.81	0.81	**0.81**
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			0.11	**0.11**
Quinone			1.60E-04			0.14	**0.14**
Toluene	1.50E-04	2.90E-03	2.90E-03	0.13	2.54	2.54	**2.54**
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.17	0.77	0.77	**0.77**
Xylene	2.00E-04	2.00E-04	2.00E-04	0.18	0.18	0.18	**0.18**
						Total HAPs	**9.34**
						Worst Single HAP	**2.72 (formaldehyde)**

Methodology

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

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

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

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

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

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

Abbreviations

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

Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: F151-30477-00064
Reviewer: Renee Traivaranon

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

Maximum Hourly Asphalt Production = 200 ton/hr
Maximum Annual Asphalt Production = 1,752,000 ton/yr

	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Greenhouse Gas Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Re-refined waste Oil	**CO2e for Worst Case Fuel (tons/yr)**
CO2	33	33	33	1	28,908.00	28,908.00	28,908.00	
CH4	0.0120	0.0120	0.0120	21	10.51	10.51	10.51	
N2O				310	0	0	0	**29,128.75**
				Total	28,918.51	28,918.51	28,918.51	
				CO2e Equivalent Emissions (tons/yr)	29,128.75	29,128.75	29,128.75	

Methodology
Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8
There are no emission factors for N20 available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N:
emission anticipated from this process.

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations
CO2 = Carbon Dioxide CH4 = Methane N2O = Nitrogen Dioxide PTE = Potential to Emit

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

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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

Maximum Annual Blast Furnace Slag Usage* =	735,840	ton/yr	1.5	% sulfur
Maximum Annual Steel Slag Usage* =	735,840	ton/yr	0.66	% sulfur

Type of Slag	SO2 Emission Factor (lb/ton)**	Unlimited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag	0.74	272.3
Steel Slag	0.0014	0.52

Methodology
* The maximum annual slag usage was provided by the source.

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

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

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

Abbreviations
SO2 = Sulfur Dioxide

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

Company Name: **API Construction Corporation**
Source Location: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

Maximum Hot Oil Heater Fuel Input Rate =	1.00	MMBtu/hr		
Natural Gas Usage =	0	MMCF/yr		
No. 2 Fuel Oil Usage =	62,571	gal/yr, and	0.50	% sulfur

Unlimited/Uncontrolled Emissions

	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	0.000	0.063	**0.06**
PM10/PM2.5	7.6	3.3	0.000	0.103	**0.10**
SO2	0.6	71.0	0.000	2.221	**2.22**
NOx	100	20.0	0.000	0.626	**0.63**
VOC	5.5	0.20	0.000	0.006	**0.01**
CO	84	5.0	0.000	0.156	**0.16**
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	0.0E+00	1.75E-05	**1.8E-05**
Beryllium	1.2E-05	4.2E-04	0.0E+00	1.31E-05	**1.3E-05**
Cadmium	1.1E-03	4.2E-04	0.0E+00	1.31E-05	**1.3E-05**
Chromium	1.4E-03	4.2E-04	0.0E+00	1.31E-05	**1.3E-05**
Cobalt	8.4E-05		0.0E+00		**0.0E+00**
Lead	5.0E-04	1.3E-03	0.0E+00	3.94E-05	**3.9E-05**
Manganese	3.8E-04	8.4E-04	0.0E+00	2.63E-05	**2.6E-05**
Mercury	2.6E-04	4.2E-04	0.0E+00	1.31E-05	**1.3E-05**
Nickel	2.1E-03	4.2E-04	0.0E+00	1.31E-05	**1.3E-05**
Selenium	2.4E-05	2.1E-03	0.0E+00	6.57E-05	**6.6E-05**
Benzene	2.1E-03		0.0E+00		**0.0E+00**
Dichlorobenzene	1.2E-03		0.0E+00		**0.0E+00**
Ethylbenzene					**0.0E+00**
Formaldehyde	7.5E-02	6.10E-02	0.0E+00	1.91E-03	**1.9E-03**
Hexane	1.8E+00		0.00		**0.0E+00**
Phenol					**0.0E+00**
Toluene	3.4E-03		0.0E+00		**0.0E+00**
Total PAH Haps	negl		negl		**0.0E+00**
Polycyclic Organic Matter		3.30E-03		1.03E-04	**1.0E-04**
		Total HAPs =	**0.0E+00**	**2.2E-03**	**0.002**

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

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

Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

Maximum Hot Oil Heater Fuel Input Rate =	1.00	MMBtu/hr		
Natural Gas Usage =	0.00	MMCF/yr		
No. 2 Fuel Oil Usage =	62,571.43	gal/yr,	0.50	% sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units) Natural Gas (lb/MMCF)	Emission Factor (units) No. 2 Fuel Oil (lb/kgal)	Greenhouse Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Natural Gas (tons/yr)	Unlimited/Uncontrolled Potential to Emit (tons/yr) No. 2 Fuel Oil (tons/yr)	**Worse Case CO2e Emissions (tons/yr)**
CO2	120,161.84	22,501.41	1	0.00	703.97	**707.09**
CH4	2.49	0.91	21	0.00	0.03	
N2O	2.2	0.26	310	0.00	0.01	
				0.00	704.01	
		CO2e Equivalent Emissions (tons/yr)		0.00	707.09	

Methodology

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2
No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]
Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal]
Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

CO2 = Carbon Dioxide
CH4 = Methane
N2O = Nitrogen Dioxide
PTE = Potential to Emit

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

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

The following calculations determine the unlimited/uncontrolled fugitive emissions from hot asphalt mix load-out, silo filling, and on-site yard for a drum mix hot mix asphalt plant

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	1,752,000	tons/yr

	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
Pollutant	**Load-Out**	**Silo Filling**	**On-Site Yard**	**Load-Out**	**Silo Filling**	**On-Site Yard**	**Total**
Total PM*	5.2E-04	5.9E-04	NA	0.46	0.51	NA	**0.97**
Organic PM	3.4E-04	2.5E-04	NA	0.30	0.222	NA	**0.52**
TOC	0.004	0.012	0.001	3.64	10.68	0.964	**15.3**
CO	0.001	0.001	3.5E-04	1.18	1.034	0.308	**2.52**

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

PM/HAPs	**0.021**	**0.025**	**0**	**0.046**
VOC/HAPs	**0.054**	**0.136**	**0.014**	**0.204**
non-VOC/HAPs	**2.8E-04**	**2.9E-05**	**7.4E-05**	**3.8E-04**
non-VOC/non-HAPs	**0.26**	**0.15**	**0.07**	**0.49**

Total VOCs	**3.42**	**10.68**	**0.9**	**15.0**
Total HAPs	**0.08**	**0.16**	**0.014**	**0.25**
			Worst Single HAP	**0.078 (formaldehyde)**

Methodology
The asphalt temperature and volatility factor were provided by the source.
Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16
Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14)::
Total PM/PM10/PM2.5 Ef = 0.000181 + 0.00141(-V)e^((0.0251)(T+460)-20.43)
Organic PM Ef = 0.00141(-V)e^((0.0251)(T+460)-20.43)
TOC Ef = 0.0172(-V)e^((0.0251)(T+460)-20.43)
CO Ef = 0.00558(-V)e^((0.0251)(T+460)-20.43)
Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):
PM/PM10 Ef = 0.000332 + 0.00105(-V)e^((0.0251)(T+460)-20.43)
Organic PM Ef = 0.00105(-V)e^((0.0251)(T+460)-20.43)
TOC Ef = 0.0504(-V)e^((0.0251)(T+460)-20.43)
CO Ef = 0.00488(-V)e^((0.0251)(T+460)-20.43)
On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32
*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

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

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: F151-30477-00064
Reviewer: Renee Traivaranon

Organic Particulate-Based Compounds (Table 11.1-15)

					Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
Pollutant	CASRN	Category	HAP Type	Source	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%	7.8E-04	1.0E-03	NA	1.8E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	8.4E-05	3.1E-05	NA	1.1E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	2.1E-04	2.9E-04	NA	5.0E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	5.7E-05	1.2E-04	NA	1.8E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	2.3E-05	0	NA	2.3E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	6.6E-06	0	NA	6.6E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	5.7E-06	0	NA	5.7E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	6.9E-06	0	NA	6.9E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	2.3E-05	2.1E-05	NA	4.4E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	3.1E-04	4.7E-04	NA	7.7E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	1.1E-06	0	NA	1.1E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.5E-04		NA	1.5E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	2.3E-03	2.2E-03	NA	4.5E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.4E-06	0	NA	1.4E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	7.1E-03	1.2E-02	NA	0.019
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	3.7E-03	4.0E-03	NA	7.8E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	6.6E-05	6.7E-05	NA	1.3E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	2.4E-03	4.0E-03	NA	6.4E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	4.5E-04	9.8E-04	NA	1.4E-03
Total PAH HAPs							**0.018**	**0.025**	**NA**	**0.043**
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	3.5E-03	0	0	3.5E-03

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

Methodology
Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [Organic PM (tons/yr)]
Specieation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations
PM = Particulate Matter
HAP = Hazardous Air Pollutant
POM = Polycyclic Organic Matter

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

Organic Volatile-Based Compounds (Table 11.1-16)

					Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
Pollutant	**CASRN**	**Category**	**HAP Type**	**Source**	**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%	**3.42**	**10.68**	**0.91**	**15.01**
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	2.4E-01	2.8E-02	6.3E-02	0.327
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.7E-03	5.9E-03	4.4E-04	0.008
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	2.6E-02	1.2E-01	6.8E-03	0.150
Total non-VOC/non-HAPS					7.30%	1.40%	**0.266**	**0.149**	**0.070**	**0.49**
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.9E-03	3.4E-03	5.0E-04	5.8E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	3.5E-04	5.2E-04	9.3E-05	9.7E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.8E-03	4.2E-03	4.7E-04	6.4E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	4.7E-04	1.7E-03	1.3E-04	2.3E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	7.7E-06	4.3E-04	2.0E-06	4.4E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	5.5E-04	2.5E-03	1.4E-04	3.1E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	4.0E-03	0	1.1E-03	5.1E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	1.0E-02	4.1E-03	2.7E-03	0.017
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	3.2E-03	7.4E-02	8.5E-04	0.078
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	5.5E-03	1.1E-02	1.4E-03	0.018
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	6.6E-05	3.3E-05	1.7E-05	1.2E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.9E-05	0	2.9E-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%	2.7E-04	5.8E-04	7.0E-05	9.1E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.8E-04	0	7.4E-05	3.5E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	7.7E-03	6.6E-03	2.0E-03	0.016
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	4.7E-05	0	1.3E-05	6.0E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.5E-02	2.1E-02	4.0E-03	0.040
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.9E-03	6.1E-03	7.7E-04	9.8E-03
Total volatile organic HAPs					1.50%	1.30%	**0.055**	**0.139**	**0.014**	**0.208**

Methodology
Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [TOC (tons/yr)]
Specieation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations
TOC = Total Organic Compounds
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
MTBE = Methyl tert butyl ether

Appendix A.1: Unlimited Emissions Calculations
Material Storage Piles

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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.

Ef = 1.7*(s/1.5)*(365-p)/235*(f/15)
where Ef = emission factor (lb/acre/day)
s = silt content (wt %)
p = 125 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	5	5.79	0.5	0.528	0.185
Limestone	1.6	1.85	0.0	0.000	0.000
RAP	0.5	0.58	0.0	0.000	0.000
Gravel	5	5.79	0.5	0.528	0.185
Slag	3.8	4.40	0.5	0.401	0.140
			Totals	**1.46**	**0.51**

Methodology
PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) * (Maximum Pile Size (acres)) * (ton/2000 lbs) * (8760 hours/yr)
PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) * 35%
*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)
**Maximum anticipated pile size (acres) provided by the source.
RAP - recycled asphalt pavement
Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PM2.5 = PM10
PTE = Potential to Emit

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

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)
To estimate potential fugitive dust emissions from processing and hangling 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.

Ef = k*(0.0032)*[(U/5)^1.3 / (M/2)^1.4]

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

Maximum Annual Asphalt Production =	1,752,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,664,400	tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	1.89	0.89	0.14
Front-end loader dumping of materials into feeder bins	1.89	0.89	0.14
Conveyor dropping material into dryer/mixer or batch tower	1.89	0.89	0.14
Total (tons/yr)	**5.66**	**2.68**	**0.41**

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

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	4.49	2.00
Screening	0.025	0.0087	20.81	7.24
Conveying	0.003	0.0011	2.50	0.92
Unlimited Potential to Emit (tons/yr) =			**27.80**	**10.15**

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

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

Appendix A.1: Unlimited Emissions Calculations
Unpaved Roads

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Maximum Annual Asphalt Production =	1,752,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,664,400	tons/yr
Maximum Asphalt Cement/Binder Throughput =	87,600	tons/yr
Maximum No. 2 Fuel Oil Usage =	3,128,571	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	7.4E+04	2.9E+06	300	0.057	4221.8
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	7.4E+04	1.3E+06	300	0.057	4221.8
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	2.4E+03	1.2E+05	300	0.057	138.3
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.4E+03	2.9E+04	300	0.057	138.3
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	3.3E+02	1.5E+04	300	0.057	18.8
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	3.3E+02	4.0E+03	300	0.057	18.8
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	4.0E+05	7.6E+06	300	0.057	22516.2
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	4.0E+05	5.9E+06	300	0.057	22516.2
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	7.3E+04	3.0E+06	300	0.057	4147.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	7.3E+04	1.2E+06	300	0.057	4147.7
	Total				**1.1E+06**	**2.2E+07**			**6.2E+04**

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

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

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	6.09	1.55	0.16	lb/mile
Mitigated Emission Factor, Eext =	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	12.87	3.28	0.33	8.46	2.16	0.22	4.23	1.08	0.11
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	12.87	3.28	0.33	8.46	2.16	0.22	4.23	1.08	0.11
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.421	0.107	0.01	0.277	0.071	0.01	0.139	0.035	0.00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.421	0.107	0.01	0.277	0.071	0.01	0.139	0.035	0.00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.057	0.015	0.00	0.038	0.010	0.00	0.019	0.005	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.057	0.015	0.00	0.038	0.010	0.00	0.019	0.005	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	68.62	17.49	1.75	45.12	11.50	1.15	22.56	5.75	0.57
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	68.62	17.49	1.75	45.12	11.50	1.15	22.56	5.75	0.57
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	12.64	3.22	0.32	8.31	2.12	0.21	4.16	1.06	0.11
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	12.64	3.22	0.32	8.31	2.12	0.21	4.16	1.06	0.11
	Totals	**189.20**	**48.22**	**4.82**	**124.40**	**31.71**	**3.17**	**62.20**	**15.85**	**1.59**

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

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

Appendix A.1: Unlimited Emissions Calculations
Paved Roads

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: F151-30477-00064
Reviewer: Renee Traivaranon

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Maximum Annual Asphalt Production =	1,752,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,664,400	tons/yr
Maximum Asphalt Cement/Binder Throughput =	87,600	tons/yr
Maximum No. 2 Fuel Oil Usage =	3,128,571	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	7.4E+04	2.9E+06	300	0.057	4221.8
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	7.4E+04	1.3E+06	300	0.057	4221.8
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	2.4E+03	1.2E+05	300	0.057	138.3
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.4E+03	2.9E+04	300	0.057	138.3
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	3.3E+02	1.5E+04	300	0.057	18.8
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	3.3E+02	4.0E+03	300	0.057	18.8
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	4.0E+05	7.6E+06	300	0.057	22516.2
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	4.0E+05	5.9E+06	300	0.057	22516.2
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	7.3E+04	3.0E+06	300	0.057	4147.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	7.3E+04	1.2E+06	300	0.057	4147.7
	Total				**1.1E+06**	**2.2E+07**			**6.2E+04**

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

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

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

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)]
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]

where p =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365	days per year

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.31	0.06	0.02	0.29	0.06	0.01	0.14	0.03	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.31	0.06	0.02	0.29	0.06	0.01	0.14	0.03	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.010	0.002	5.0E-04	0.009	0.002	4.6E-04	0.005	9.4E-04	2.3E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.010	0.002	5.0E-04	0.009	0.002	4.6E-04	0.005	9.4E-04	2.3E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.4E-03	2.8E-04	6.9E-05	1.3E-03	2.6E-04	6.3E-05	6.4E-04	1.3E-04	3.1E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.4E-03	2.8E-04	6.9E-05	1.3E-03	2.6E-04	6.3E-05	6.4E-04	1.3E-04	3.1E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	1.67	0.33	0.08	1.53	0.31	0.08	0.77	0.15	0.04
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	1.67	0.33	0.08	1.53	0.31	0.08	0.77	0.15	0.04
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.31	0.06	0.02	0.28	0.06	0.01	0.14	0.03	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.31	0.06	0.02	0.28	0.06	0.01	0.14	0.03	0.01
	Totals	**4.62**	**0.92**	**0.23**	**4.22**	**0.84**	**0.21**	**2.11**	**0.42**	**0.10**

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

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

Appendix A.1: Unlimited Emissions Calculations
Cold Mix Asphalt Production and Stockpiles

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Maximum Annual Asphalt Production =	1,752,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Asphalt Cement/Binder Throughput =	87,600	tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Usage (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	22,162.8	21,054.7
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	25,053.6	17,537.5
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	17,520.0	4,380.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	0.0	0.0
Other asphalt with solvent binder	25.9%	2.5%	0.0	0.0
			Worst Case PTE of VOC =	**21,054.7**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
PTE of Total HAPs (tons/yr) =	**5,491.83**	
PTE of Single HAP (tons/yr) =	**1,894.92**	**Xylenes**

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

		Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
Volatile Organic HAP	CAS#	Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
Total Organic HAPs		**26.08%**	**0.33%**	**1.29%**	**0.68%**	**0.19%**
Worst Single HAP		**9.00% Xylenes**	**0.31% Naphthalene**	**0.50% Xylenes**	**0.23% Xylenes**	**0.07% Chrysene**

Methodology
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] * [Maximum Weight % of VOC Solvent in Binder]
PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [Maximum VOC Solvent Usage (tons/yr)]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at:
http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

Appendix A.1: Unlimited Emissions Calculations
Gasoline Fuel Transfer and Dispensing Operation

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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

Gasoline Throughput =	0.0	gallons/day
=	0.0	kgal/yr

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.00
Tank breathing and emptying	1.0	0.00
Vehicle refueling (displaced losses - controlled)	1.1	0.00
Spillage	0.7	0.00
Total		**0.00**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	**0.00**	
Limited PTE of Single HAP (tons/yr) =	**0.00**	**Xylenes**

Methodology
The gasoline throughput was provided by the source.
Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] * [365 days/yr] * [kgal/1000 gal]
PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volun
2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at:
http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: F151-30477-00064
Reviewer: Renee Traivaranon

Asphalt Plant Limitations - Drum Mix

Maximum Hourly Asphalt Production =	200	ton/hr								
Annual Asphalt Production Limitation =	1,400,000	ton/yr								
Blast Furnace Slag Usage Limitation =	2,500	ton/yr	1.50	% sulfur						
Steel Slag Usage Limitation =	2,500		0.66	% sulfur						
Natural Gas Limitation =	0	MMCF/yr								
No. 2 Fuel Oil Limitation =	2,700,105	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur						
Propane Limitation =	0	gal/yr, and	0.20	gr/100 ft3 sulfur						
Liquefied petroleum fuel Limitation =	4,496,920	gal/yr, and	0.22	gr/100 ft3 sulfur						
Re-fined Waste Oil Limitation =	931,523	gal/yr, and	1.40	% sulfur	3.00	% ash	0.200	% chlorine,	0.000	% lead

PM Dryer/Mixer Limitation =	0.240	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.100	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.122	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production
Blast Furnace Slag SO2 Dryer/Mixer Limitation =	0.740	lb/ton of slag processed
Steel Slag SO2 Dryer/Mixer Limitation =	0.0014	lb/ton of slag processed
Cold Mix Asphalt VOC Usage Limitation =	62.78	tons/yr
HCl Limitation =	13.2	lb/kgal

Limited/Controlled Emissions

	Limited/Controlled Potential Emissions (tons/year)										
	Criteria Pollutants							Greenhouse Gas	Hazardous Air Pollutants		
Process Description	**PM**	**PM10**	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**	**CO_2e**	**Total HAPs**	**Worst Case HAP**	
Ducted Emissions											
Dryer Fuel Combustion (worst case)	89.43	71.26	71.26	95.85	33.73	2.47	18.89	33,276.66	6.36	6.15	(hydrogen chloride)
Dryer/Mixer (Process)	167.97	70.00	85.72	40.60	38.50	22.40	91.00	23,276	7.46	2.17	(formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	0.93	0	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.06	0.10	0.10	2.22	0.63	0.01	0.16	707.09	0.00	0.002	(hexane)
Worst Case Emissions*	**168.03**	**71.36**	**85.82**	**99.00**	**39.13**	**22.41**	**91.16**	**33,983.76**	**7.46**	**6.15**	(hydrogen chloride)
Fugitive Emissions											
Asphalt Load-Out, Silo Filling, On-Site Yard	0.78	0.78	0.78	0	0	11.99	2.02	0	0.20	0.06	(formaldehyde)
Material Storage Piles	0.84	0.30	0.30	0	0	0	0	0	0	0	
Material Processing and Handling	4.52	2.14	0.32	0	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	18.62	6.52	6.52	0	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	49.71	12.67	1.27	0	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	62.78	0	0	16.38	5.65	(xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0	0.00	0.00	(xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	negl	
Total Fugitive Emissions	**74.47**	**22.40**	**9.18**	**0**	**0**	**74.77**	**2.02**	**0.00**	**16.58**	**5.65**	(xylenes)
Totals Limited/Controlled Emissions	**242.50**	**93.76**	**95.00**	**99.00**	**39.13**	**97.18**	**93.17**	**33,983.76**	**24.04**	**6.15**	(hydrogen Chloride)

negl = negligible
Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.
*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion
Fuel component percentages have not been changed and are the same as originated in the First FESOP.

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

Company Name: API Construction Corporatior
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: F151-30477-00064
Reviewer: Renee Traivaranon

The following calculations determine the limited emissions created from the combustion of No 2 fuel oil, Liquefied petroleum fuel , or Re-refined Waste Oil in the dryer/mixer combustion sources at the source.

Production and Fuel Limitations

Maximum Hourly Asphalt Production =	200	ton/hr								
Annual Asphalt Production Limitation =	1,400,000	ton/yr								
Natural Gas Limitation =	0	MMCF/yr								
No. 2 Fuel Oil Limitation =	2,700,105	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur						
Propane Limitation =	0	gal/yr, and	0.20	gr/100 ft3 sulfur						
Liquefied petroleum fuel Limitation =	4,496,920	gal/yr, and	0.22	gr/100 ft3 sulfur						
Re-refined Waste Oil Limitation =	931,523	gal/yr, and	1.40	% sulfur	3.00	% ash	0.200	% chlorine,	0.000	% lead

Limited Emissions

	Emission Factor (units)							Limited Potential to Emit (tons/yr)							
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Liquefied petroleum fuel (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Liquefied petroleum fuel (tons/yr)	Re-refined Waste Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	7.0	7.815	0.5	0.6	192.0	0.00	2.70	0.00	0.00	0.000	1.349	89.43	**89.43**
PM10	7.6	3.3	8.3	9.315	0.5	0.6	153	0.00	4.46	0.00	0.00	0.000	1.349	71.26	**71.26**
SO2	0.6	71.0	75.0	78.5	0.02	0.02	205.8	0.00	95.85	0.00	0.00	0.000	0.045	95.85	**95.85**
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	0.00	27.00	0.00	0.00	0.00	33.73	8.85	**33.73**
VOC	5.5	0.20	0.20	0.28	1.0	1.10	1.0	0.00	0.27	0.00	0.00	0.00	2.47	0.47	**2.47**
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	0.00	6.75	0.00	0.00	0.00	18.89	2.33	**18.89**
Hazardous Air Pollutant															
HCl							13.2							6.15	**6.15**
Antimony			5.25E-03	5.25E-03			negl			0.00E+00	0.00E+00			negl	**0.0E+00**
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	0.0E+00	7.56E-04	0.00E+00	0.00E+00			5.12E-02	**5.1E-02**
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	0.0E+00	5.67E-04	0.00E+00	0.00E+00			negl	**5.7E-04**
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	0.0E+00	5.67E-04	0.00E+00	0.00E+00			4.33E-03	**4.3E-03**
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	0.0E+00	5.67E-04	0.00E+00	0.00E+00			9.32E-03	**9.3E-03**
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	0.0E+00		0.00E+00	0.00E+00			9.78E-05	**9.8E-05**
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0	0.0E+00	1.70E-03	0.00E+00	0.00E+00			0.0E+00	**0.00**
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	0.0E+00	1.13E-03	0.00E+00	0.00E+00			3.17E-02	**0.03**
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				0.0E+00	5.67E-04	0.00E+00	0.00E+00				**5.7E-04**
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	0.0E+00	5.67E-04	0.00E+00	0.00E+00			5.12E-03	**0.005**
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	0.0E+00	2.84E-03	0.00E+00	0.00E+00			negl	**2.8E-03**
1.1.1-Trichloroethane			2.36E-04	2.36E-04						0.00E+00	0.00E+00				**0.0E+00**
1,3-Butadiene															**0.0E+00**
Acetaldehyde															**0.0E+00**
Acrolein															**0.0E+00**
Benzene	2.1E-03		2.14E-04	2.14E-04				0.0E+00		0.00E+00	0.00E+00				**0.0E+00**
Bis(2-ethylhexyl)phthalate							2.2E-03							1.02E-03	**1.0E-03**
Dichlorobenzene	1.2E-03						8.0E-07	0.0E+00						3.73E-07	**3.7E-07**
Ethylbenzene			6.36E-05	6.36E-05						0.00E+00	0.00E+00				**0.0E+00**
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				0.0E+00	8.24E-02	0.00E+00	0.00E+00				**0.082**
Hexane	1.8E+00							0.00							**0.000**
Phenol							2.4E-03							1.12E-03	**1.1E-03**
Toluene	3.4E-03		6.20E-03	6.20E-03				0.0E+00		0.00E+00	0.00E+00				**0.0E+00**
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0.00E+00	0.00E+00			1.82E-02	**1.8E-02**
Polycyclic Organic Matter		3.30E-03							4.46E-03						**4.5E-03**
Xylene			1.09E-04	1.09E-04						0.00E+00	0.00E+00				**0.0E+00**
							Total HAPs	**0.00**	**0.10**	**0.00**	**0.00**	**0**	**0**	**6.27**	**6.36**

Methodology

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
Sources of AP-42 Emission Factors for fuel combustion:
Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
No. 2, No.4, and No.6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
Propane and Liquefied petroleum fuel : AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5
*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

Abbreviations

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

Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO2e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: F151-30477-00064
Reviewer: Renee Traivaranon

The following calculations determine the limited emissions created from the combustion of natural gas, fuel oil, propane, Liquefied petroleum fuel , or Re-refined Waste Oil in the dryer/mixer and all other fuel combustion sources at the source.

Production and Fuel Limitations

Maximum Hourly Asphalt Production =	200	ton/hr							
Annual Asphalt Production Limitation =	1,400,000	ton/yr							
Natural Gas Limitation =	0	MMCF/yr							
No. 2 Fuel Oil Limitation =	2,700,105	gal/yr, and	0.50	% sulfur					
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur					
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur					
Propane Limitation =	0	gal/yr, and	0.20	gr/100 ft3 sulfur					
Liquefied petroleum fuel Limitation =	4,496,920	gal/yr, and	0.22	gr/100 ft3 sulfur					
Re-refined Waste Oil Limitation =	931,523	gal/yr, and	1.40	% sulfur	3.00	% ash	0.200	% chlorine,	0.000 % lead

Limited Emissions

	Factor (units)							Greenhouse Warming Potentials (GWP)		
CO2e Fraction	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Liquefied petroleum fuel (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO2	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO_2	1
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH_4	21
N2O	2.20	0.26	0.19	0.53	0.90	0.90	0.18	Nitrous oxide	N_2O	310

	Potential to						
CO2e Fraction	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Liquefied petroleum fuel (tons/yr)	Used/Waste Oil (tons/yr)
CO2	0.00	30,378.08	0.00	0.00	0.00	32,617.80	10,258.00
CH4	0.00	1.23	0.00	0.00	0.00	1.50	0.42
N2O	0.00	0.35	0.00	0.00	0.00	2.02	0.08
Total	0.00	30,379.66	0.00	0.00	0.00	32,621.33	10,258.50
CO2e Equivalent Emissions (tons/yr)	0.00	30,512.78	0.00	0.00	0.00	33,276.66	10,292.73

CO2e for Worst Case Fuel* (tons/yr)
33,276.66

Methodology
Fuel Limitations from TSD Appendix A.2, page 1 of 15.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2

No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

No.4 Fuel Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Residual (No. 5 or No. 6) Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Propane and Liquefied petroleum fuel : Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Waste Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
Limited CO2e Emissions (tons/yr) = CO2 Potential Emission of "worst case" fuel (ton/yr) x CO2 GWP (1) + CH4 Potential Emission of "worst case" fuel (ton/yr) x CH4 GWP (21) + N2O Potential Emission of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations
CH4 = Methane CO2 = Carbon Dioxide N2O = Nitrogen Dioxide PTE = Potential to Emit

Appendix A.2: Limited Emissions Calculations
Dryer/Mixer Process

Company Name: **API Construction Corporatior**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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

Maximum Hourly Asphalt Production =	200	ton/hr
Annual Asphalt Production Limitation =	1,400,000	ton/yr
PM Dryer/Mixer Limitation =	0.240	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.100	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.122	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

	Emission Factor or Limitation (lb/ton) Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Limited/Controlled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	**Worse Case PTE**
PM*	0.240	0.240	0.240	168.0	168.0	168.0	**168.0**
PM10*	0.100	0.100	0.100	70.0	70.0	70.0	**70.0**
PM2.5*	0.122	0.122	0.122	85.7	85.7	85.7	**85.7**
SO2**	0.003	0.011	0.058	2.4	7.7	40.6	**40.6**
NOx**	0.026	0.055	0.055	18.2	38.5	38.5	**38.5**
VOC**	0.032	0.032	0.032	22.4	22.4	22.4	**22.4**
CO***	0.130	0.130	0.130	91.0	91.0	91.0	**91.0**
Hazardous Air Pollutant							
HCl			2.10E-04			0.15	**0.15**
Antimony	1.80E-07	1.80E-07	1.80E-07	1.26E-04	1.26E-04	1.26E-04	**1.26E-04**
Arsenic	5.60E-07	5.60E-07	5.60E-07	3.92E-04	3.92E-04	3.92E-04	**3.92E-04**
Beryllium	negl	negl	negl	negl	negl	negl	**0.00E+00**
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.87E-04	2.87E-04	2.87E-04	**2.87E-04**
Chromium	5.50E-06	5.50E-06	5.50E-06	3.85E-03	3.85E-03	3.85E-03	**3.85E-03**
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.82E-05	1.82E-05	1.82E-05	**1.82E-05**
Lead	6.20E-07	1.50E-05	1.50E-05	4.34E-04	1.05E-02	1.05E-02	**1.05E-02**
Manganese	7.70E-06	7.70E-06	7.70E-06	5.39E-03	5.39E-03	5.39E-03	**5.39E-03**
Mercury	2.40E-07	2.60E-06	2.60E-06	1.68E-04	1.82E-03	1.82E-03	**1.82E-03**
Nickel	6.30E-05	6.30E-05	6.30E-05	4.41E-02	4.41E-02	4.41E-02	**4.41E-02**
Selenium	3.50E-07	3.50E-07	3.50E-07	2.45E-04	2.45E-04	2.45E-04	**2.45E-04**
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	2.80E-02	2.80E-02	2.80E-02	**2.80E-02**
Acetaldehyde			1.30E-03			0.91	**0.91**
Acrolein			2.60E-05			1.82E-02	**1.82E-02**
Benzene	3.90E-04	3.90E-04	3.90E-04	0.27	0.27	0.27	**0.27**
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.17	0.17	0.17	**0.17**
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	2.17	2.17	2.17	**2.17**
Hexane	9.20E-04	9.20E-04	9.20E-04	0.64	0.64	0.64	**0.64**
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.03	0.03	0.03	**0.03**
MEK			2.00E-05			0.01	**0.01**
Propionaldehyde			1.30E-04			0.09	**0.09**
Quinone			1.60E-04			0.11	**0.11**
Toluene	1.50E-04	2.90E-03	2.90E-03	0.11	2.03	2.03	**2.03**
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.13	0.62	0.62	**0.62**
Xylene	2.00E-04	2.00E-04	2.00E-04	0.14	0.14	0.14	**0.14**
						Total HAPs	**7.46**
						Worst Single HAP	**2.17** **(formaldehyde)**

Methodology
Limited/Controlled Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11-1.4, 11.1-7, 11.1-8, 11.1-10, and 11.1-12
Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

* PM, PM10, and PM2.5 AP-42 emission factors based on drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. According to AP-42 fuel type does not significantly effect PM, PM10, and PM2.5 emissions.
** SO2, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.
*** CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emissior

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

Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO2e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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

Maximum Hourly Asphalt Production = 200 ton/hr
Annual Asphalt Production Limitation = 1,400,000 ton/yr

	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)				Limited Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil	Greenhouse Gas Global Warming Potentials (GWP)	Natural Gas	No. 2 Fuel Oil	Waste Oil	**CO2e for Worst Case Fuel (tons/yr)**
CO2	33	33	33	1	0.00	23,100.00	23,100.00	
CH4	0.0120	0.0120	0.0120	21	0.00	8.40	8.40	
N2O				310	0.00	0.00	0.00	**23,276.40**
				Total	0.00	23,108.40	23,108.40	
				CO2e Equivalent Emissions (tons/yr)	0.00	23,276.40	23,276.40	

Methodology
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8
There are no emission factors for N20 available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N2O emission anticipated from this process.

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

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.
Limited CO2e Emissions (tons/yr) = CO2 Potential Emission of "worst case" fuel (ton/yr) x CO2 GWP (1) + CH4 Potential Emission of "worst case" fuel (ton/yr) x CH4 GWP (21) + N2O Potential Emission of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations
CO2 = Carbon Dioxide CH4 = Methane N2O = Nitrogen Dioxide PTE = Potential to Emit

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

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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

Limited Annual Blast Furnace Slag Usage =	2,500	ton/yr	1.50	% sulfur
Limited Annual Steel Slag Usage =	2,500	ton/yr	0.66	% sulfur

Type of Slag	SO2 Emission Factor (lb/ton)*	Limited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag	0.7400	0.9
Steel Slag	0.0014	0.002

Methodology

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

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

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

Abbreviations

SO2 = Sulfur Dioxide

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

Company Name: **API Construction Corporation**
Source Location: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

Maximum Hot Oil Heater Fuel Input Rate =	1.00	MMBtu/hr		
Natural Gas Usage =	0	MMCF/yr		
No. 2 Fuel Oil Usage =	62,571	gal/yr, and	0.50	% sulfur

Unlimited/Uncontrolled Emissions

	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	0.000	0.063	**0.06**
PM10/PM2.5	7.6	3.3	0.000	0.103	**0.10**
SO2	0.6	71.0	0.000	2.221	**2.22**
NOx	100	20.0	0.000	0.626	**0.63**
VOC	5.5	0.20	0.000	0.006	**0.01**
CO	84	5.0	0.000	0.156	**0.16**
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	0.0E+00	1.75E-05	**1.8E-05**
Beryllium	1.2E-05	4.2E-04	0.0E+00	1.31E-05	**1.3E-05**
Cadmium	1.1E-03	4.2E-04	0.0E+00	1.31E-05	**1.3E-05**
Chromium	1.4E-03	4.2E-04	0.0E+00	1.31E-05	**1.3E-05**
Cobalt	8.4E-05		0.0E+00		**0.0E+00**
Lead	5.0E-04	1.3E-03	0.0E+00	3.94E-05	**3.9E-05**
Manganese	3.8E-04	8.4E-04	0.0E+00	2.63E-05	**2.6E-05**
Mercury	2.6E-04	4.2E-04	0.0E+00	1.31E-05	**1.3E-05**
Nickel	2.1E-03	4.2E-04	0.0E+00	1.31E-05	**1.3E-05**
Selenium	2.4E-05	2.1E-03	0.0E+00	6.57E-05	**6.6E-05**
Benzene	2.1E-03		0.0E+00		**0.0E+00**
Dichlorobenzene	1.2E-03		0.0E+00		**0.0E+00**
Ethylbenzene					**0**
Formaldehyde	7.5E-02	6.10E-02	0.0E+00	1.91E-03	**0.002**
Hexane	1.8E+00		0.00		**0.000**
Phenol					**0**
Toluene	3.4E-03		0.0E+00		**0.0E+00**
Total PAH Haps	negl		negl		**0**
Polycyclic Organic Matter		3.30E-03		1.03E-04	**1.0E-04**
		Total HAPs =	**0.0E+00**	**2.2E-03**	**0.002**

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

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

Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO2e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

Maximum Hot Oil Heater Fuel Input Rate =	1.00	MMBtu/hr		
Natural Gas Usage =	0.00	MMCF/yr		
No. 2 Fuel Oil Usage =	62,571.43	gal/yr,	0.50	% sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units) Natural Gas (lb/MMCF)	Emission Factor (units) No. 2 Fuel Oil (lb/kgal)	Greenhouse Gas Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Natural Gas (tons/yr)	Unlimited/Uncontrolled Potential to Emit (tons/yr) No. 2 Fuel Oil (tons/yr)
CO2	120,161.84	22,501.41	1	0.00	703.97
CH4	2.49	0.91	21	0.000	2.86E-02
N2O	2.20	0.26	310	0.000	8.13E-03
			Total	0.00	704.01
			CO2e Equivalent Emissions (tons/yr)	0.00	707.09

Worse Case CO2e Emissions (tons/yr)
707.09

Methodology

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas : Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2

No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

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

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] *

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

CH4 = Methane
CO2 = Carbon Dioxide
N2O = Nitrogen Dioxide
PTE = Potential to Emit

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

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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 =	1,400,000	tons/yr

	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
Pollutant	**Load-Out**	**Silo Filling**	**On-Site Yard**	**Load-Out**	**Silo Filling**	**On-Site Yard**	**Total**
Total PM*	5.2E-04	5.9E-04	NA	0.37	0.41	NA	**0.78**
Organic PM	3.4E-04	2.5E-04	NA	0.24	0.178	NA	**0.42**
TOC	0.004	0.012	0.001	2.91	8.53	0.770	**12.2**
CO	0.001	0.001	3.5E-04	0.94	0.826	0.246	**2.02**

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

PM/HAPs	**0.017**	**0.020**	**0**	**0.037**
VOC/HAPs	**0.043**	**0.108**	**0.011**	**0.163**
non-VOC/HAPs	**2.2E-04**	**2.3E-05**	**5.9E-05**	**3.1E-04**
non-VOC/non-HAPs	**0.21**	**0.12**	**0.06**	**0.39**

Total VOCs	**2.74**	**8.53**	**0.7**	**12.0**
Total HAPs	**0.06**	**0.13**	**0.011**	**0.20**
			Worst Single HAP	**0.062 (formaldehyde)**

Methodology
The asphalt temperature and volatility factor were provided by the source.
Limited Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16
Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14)::
Total PM/PM10 Ef = 0.000181 + 0.00141(-V)e^((0.0251)(T+460)-20.43)
Organic PM Ef = 0.00141(-V)e^((0.0251)(T+460)-20.43)
TOC Ef = 0.0172(-V)e^((0.0251)(T+460)-20.43)
CO Ef = 0.00558(-V)e^((0.0251)(T+460)-20.43)
Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):
PM/PM10 Ef = 0.000332 + 0.00105(-V)e^((0.0251)(T+460)-20.43)
Organic PM Ef = 0.00105(-V)e^((0.0251)(T+460)-20.43)
TOC Ef = 0.0504(-V)e^((0.0251)(T+460)-20.43)
CO Ef = 0.00488(-V)e^((0.0251)(T+460)-20.43)
On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32
*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

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

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: F151-30477-00064
Reviewer: Renee Traivaranon

Organic Particulate-Based Compounds (Table 11.1-15)

					Speciation Profile		Limited Potential to Emit (tons/yr)			
Pollutant	**CASRN**	**Category**	**HAP Type**	**Source**	**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%	6.2E-04	8.4E-04	NA	1.5E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	6.7E-05	2.5E-05	NA	9.2E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.7E-04	2.3E-04	NA	4.0E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	4.5E-05	1.0E-04	NA	1.4E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.8E-05	0	NA	1.8E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	5.3E-06	0	NA	5.3E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	4.5E-06	0	NA	4.5E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	5.5E-06	0	NA	5.5E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.9E-05	1.7E-05	NA	3.5E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	2.5E-04	3.7E-04	NA	6.2E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	8.8E-07	0	NA	8.8E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.2E-04	2.7E-04	NA	3.9E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.8E-03	1.8E-03	NA	3.6E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.1E-06	0	NA	1.1E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	5.7E-03	9.4E-03	NA	0.015
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	3.0E-03	3.2E-03	NA	6.2E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	5.3E-05	5.3E-05	NA	1.1E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.9E-03	3.2E-03	NA	5.1E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	3.6E-04	7.8E-04	NA	1.1E-03
Total PAH HAPs							**0.014**	**0.020**	**NA**	**0.034**
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.8E-03	0	0	2.8E-03

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

Methodology

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

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

Abbreviations

PM = Particulate Matter
HAP = Hazardous Air Pollutant
POM = Polycyclic Organic Matter

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: F151-30477-00064
Reviewer: Renee Traivaranon

Organic Volatile-Based Compounds (Table 11.1-16)

					Speciation Profile		Limited Potential to Emit (tons/yr)			
Pollutant	CASRN	Category	HAP Type	Source	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%	**2.74**	**8.53**	**0.72**	**11.99**
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.9E-01	2.2E-02	5.0E-02	0.261
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.3E-03	4.7E-03	3.5E-04	0.006
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	2.1E-02	9.4E-02	5.5E-03	0.120
Total non-VOC/non-HAPS					7.30%	1.40%	**0.213**	**0.119**	**0.056**	**0.39**
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.5E-03	2.7E-03	4.0E-04	4.6E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.8E-04	4.2E-04	7.4E-05	7.7E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.4E-03	3.3E-03	3.8E-04	5.1E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	3.8E-04	1.4E-03	1.0E-04	1.8E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	6.1E-06	3.4E-04	1.6E-06	3.5E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	4.4E-04	2.0E-03	1.2E-04	2.5E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	3.2E-03	0	8.5E-04	4.0E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	8.2E-03	3.2E-03	2.2E-03	0.014
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	2.6E-03	5.9E-02	6.8E-04	0.062
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	4.4E-03	8.5E-03	1.2E-03	0.014
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	5.2E-05	2.6E-05	1.4E-05	9.3E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.3E-05	0	2.3E-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%	2.1E-04	4.6E-04	5.6E-05	7.3E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.2E-04	0	5.9E-05	2.8E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	6.1E-03	5.3E-03	1.6E-03	0.013
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	3.8E-05	0	1.0E-05	4.8E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.2E-02	1.7E-02	3.2E-03	0.032
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.3E-03	4.9E-03	6.2E-04	7.8E-03
Total volatile organic HAPs					1.50%	1.30%	**0.044**	**0.111**	**0.012**	**0.166**

Methodology
Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] * [TOC (tons/yr)]
Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations
TOC = Total Organic Compounds
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
MTBE = Methyl tert butyl ether

Appendix A.2: Limited Emissions Calculations
Material Storage Piles

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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

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

Ef = 1.7*(s/1.5)*(365-p)/235*(f/15)
where Ef = emission factor (lb/acre/day)
s = silt content (wt %)
p = 125 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.50	0.275	0.096
Limestone	1.6	1.85	0.00	0.000	0.000
RAP	0.5	0.58	0.00	0.000	0.000
Gravel	1.6	1.85	0.50	0.169	0.059
Slag	3.8	4.40	0.50	0.401	0.140
			Totals	**0.84**	**0.30**

Methodology
PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) * (Maximum Pile Size (acres)) * (ton/2000 lbs) * (8760 hours/yr)
PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) * 35%
*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)
**Maximum anticipated pile size (acres) provided by the source.
RAP = recycled asphalt pavement
Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PM2.5 = PM10
PTE = Potential to Emit

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

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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

To estimate potential fugitive dust emissions from processing and hangling 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.

Ef = k*(0.0032)*[(U/5)^1.3 / (M/2)^1.4]

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

Annual Asphalt Production Limitation =	1,400,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,330,000	tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	1.51	0.71	0.11
Front-end loader dumping of materials into feeder bins	1.51	0.71	0.11
Conveyor dropping material into dryer/mixer or batch tower	1.51	0.71	0.11
Total (tons/yr)	**4.52**	**2.14**	**0.32**

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

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	0.00	0.00
Screening	0.025	0.0087	16.63	5.79
Conveying	0.003	0.0011	2.00	0.73
Limited Potential to Emit (tons/yr) =			**18.62**	**6.52**

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

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

Appendix A.2: Limited Emissions Calculations
Unpaved Roads

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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 =	1,400,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,330,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	70,000	tons/yr
No. 2 Fuel Oil Limitation =	2,700,105	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	5.9E+04	2.3E+06	300	0.057	3373.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	5.9E+04	1.0E+06	300	0.057	3373.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.9E+03	9.3E+04	300	0.057	110.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.9E+03	2.3E+04	300	0.057	110.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.9E+02	1.3E+04	300	0.057	16.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.9E+02	3.4E+03	300	0.057	16.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	3.2E+05	6.1E+06	300	0.057	17992.4
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	3.2E+05	4.8E+06	300	0.057	17992.4
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	5.8E+04	2.4E+06	300	0.057	3314.4
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	5.8E+04	9.9E+05	300	0.057	3314.4
	Total				**8.7E+05**	**1.8E+07**			**5.0E+04**

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

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

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [(365 - P)/365]
Mitigated Emission Factor, Eext = E * [(365 - P)/365]

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	6.09	1.55	0.16	lb/mile
Mitigated Emission Factor, Eext =	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	10.28	2.62	0.26	6.76	1.72	0.17	3.38	0.86	0.09
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	10.28	2.62	0.26	6.76	1.72	0.17	3.38	0.86	0.09
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.337	0.086	0.01	0.221	0.056	5.6E-03	0.111	0.028	2.8E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.337	0.086	0.01	0.221	0.056	5.6E-03	0.111	0.028	2.8E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.049	0.013	1.3E-03	0.032	0.008	8.3E-04	0.016	0.004	4.1E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.049	0.013	1.3E-03	0.032	0.008	8.3E-04	0.016	0.004	4.1E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	54.83	13.97	1.40	36.05	9.19	0.92	18.03	4.59	0.46
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	54.83	13.97	1.40	36.05	9.19	0.92	18.03	4.59	0.46
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	10.10	2.57	0.26	6.64	1.69	0.17	3.32	0.85	0.08
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	10.10	2.57	0.26	6.64	1.69	0.17	3.32	0.85	0.08
	Totals	**151.19**	**38.53**	**3.85**	**99.42**	**25.34**	**2.53**	**49.71**	**12.67**	**1.27**

Methodology

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

Abbreviations

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

Appendix A.2: Limited Emissions Calculations
Paved Roads

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: F151-30477-00064
Reviewer: Renee Traivaranon

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 =	1,400,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,330,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	70,000	tons/yr
No. 2 Fuel Oil Limitation =	2,700,105	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	5.9E+04	2.3E+06	300	0.057	3373.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	5.9E+04	1.0E+06	300	0.057	3373.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.9E+03	9.3E+04	300	0.057	110.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.9E+03	2.3E+04	300	0.057	110.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.9E+02	1.3E+04	300	0.057	16.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.9E+02	3.4E+03	300	0.057	16.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	3.2E+05	6.1E+06	300	0.057	17992.4
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	3.2E+05	4.8E+06	300	0.057	17992.4
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	5.8E+04	2.4E+06	300	0.057	3314.4
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	5.8E+04	9.9E+05	300	0.057	3314.4
	Total				**8.7E+05**	**1.8E+07**			**5.0E+04**

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

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

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

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)]
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]

where p =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365	days per year

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.25	0.05	0.01	0.23	0.05	0.01	0.11	0.02	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.25	0.05	0.01	0.23	0.05	0.01	0.11	0.02	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.008	0.002	4.0E-04	0.008	0.002	3.7E-04	0.004	7.5E-04	1.8E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.008	0.002	4.0E-04	0.008	0.002	3.7E-04	0.004	7.5E-04	1.8E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.2E-03	2.4E-04	5.9E-05	1.1E-03	2.2E-04	5.4E-05	5.5E-04	1.1E-04	2.7E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.2E-03	2.4E-04	5.9E-05	1.1E-03	2.2E-04	5.4E-05	5.5E-04	1.1E-04	2.7E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	1.34	0.27	0.07	1.22	0.24	0.06	0.61	0.12	0.03
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	1.34	0.27	0.07	1.22	0.24	0.06	0.61	0.12	0.03
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.25	0.05	0.01	0.23	0.05	0.01	0.11	0.02	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.25	0.05	0.01	0.23	0.05	0.01	0.11	0.02	0.01
	Totals	**3.69**	**0.74**	**0.18**	**3.37**	**0.67**	**0.17**	**1.69**	**0.34**	**0.08**

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

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

Appendix A.2: Limited Emissions Calculations
Cold Mix Asphalt Production and Stockpiles

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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 = 62.8 tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder	Weight % VOC solvent in binder that evaporates	VOC Solvent Usage Limitation (tons/yr)	Limited PTE of VOC (tons/yr)	Liquid Binder Adjustment Ratio
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	66.1	62.8	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	89.7	62.8	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	251.1	62.8	4.000
			Worst Case Limited PTE of VOC =	**62.8**	

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) =	**16.38**	
Limited PTE of Single HAP (tons/yr) =	**5.65**	**Xylenes**

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

		Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
Volatile Organic HAP	CAS#	Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
Total Organic HAPs		**26.08%**	**0.33%**	**1.29%**	**0.68%**	**0.19%**
Worst Single HAP		**9.00% Xylenes**	**0.31% Naphthalene**	**0.50% Xylenes**	**0.23% Xylenes**	**0.07% Chrysene**

Methodology
Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [VOC Solvent Usage Limitation (tons/yr)]
Limited PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
Limited PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

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

Company Name: **API Construction Corporation**
Source Address: **225 South CR 600 W, Angola, Indiana 46703**
Permit Number: **F151-30477-00064**
Reviewer: **Renee Traivaranon**

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

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

Gasoline Throughput =	0	gallons/day
=	0.0	kgal/yr

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.00
Tank breathing and emptying	1.0	0.00
Vehicle refueling (displaced losses - controlled)	1.1	0.00
Spillage	0.7	0.00
Total		**0.00**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	**0.00**	
Limited PTE of Single HAP (tons/yr) =	**0.00**	**Xylenes**

Methodology
The gasoline throughput was provided by the source.
Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] * [365 days/yr] * [kgal/1000 gal]
PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Kirk Braun
API Construction Corp.
PO Box 191
LaOtto, IN 46763

DATE: December 9, 2011

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

SUBJECT: Final Decision
FESOP (Renewal)
151-30477-00064

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Dana Armstrong, Consultant
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

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December 9, 2011

TO: Angola Carrengie Public Library

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

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: API Construction Corp.
Permit Number: 151-30477-00064

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	PWAY 12/9/2011 API Construction Corp. 151-30477-00064 (final)			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Kirk Braun API Construction Corp. PO Box 191 LaOtto IN 46763 (Source CAATS)									
2		Steuben County Board of Commissioners 317 S Wayne Suite 2H Angola IN 46703 *(Local Official)*									
3		Steuben County Health Department 317 S. Wayne St, Community Center Suite 3-A Angola IN 46703-1938 *(Health Department)*									
4		Mr. Steve Christman NISWMD 2320 W 800 S, P.O. Box 370 Ashley IN 46705 *(Affected Party)*									
5		Angola Carrengie Public Library 322 S Wayne Angola IN 46703-1990 *(Library)*									
6		Mr. Diane Hanson 490 E 300 N Angola IN 46703 *(Affected Party)*									
7		Dana Armstrong DECA Environmental & Associates, Inc. 410 1st Avenue NE Carmel IN 46032 *(Consultant)*									
8		Mark Zeltwanger 26545 CR 52 Nappanee IN 46550 *(Affected Party)*									
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