



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

To: Interested Parties

Date: January 27, 2015

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

Source Name: API Construction Corporation

Permit Level: Part 70 Operating Permit Renewal

Permit Number: 033-34535-00055

Source Location: 1633 County Road 72, Huntertown, Indiana

Type of Action Taken: Permit Renewal

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 matter referenced above.

The final decision is available on the IDEM website at: <http://www.in.gov/apps/idem/caats/>
To view the document, select Search option 3, then enter permit 34535.

If you would like to request a paper copy of the permit document, please contact IDEM's central file room:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

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.

(continues on next page)

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) 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.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

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.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

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.



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Commissioner

**Part 70 Operating Permit Renewal
OFFICE OF AIR QUALITY**

**API Construction Corporation
1633 County Road 72
Huntertown, Indiana 46748**

(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. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. 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 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No. T033-34535-00055	
Issued by:  Nathan C. Bell, Section Chief Permits Branch Office of Air Quality	Issuance Date: January 27, 2015 Expiration Date: January 27, 2020

TABLE OF CONTENTS

A. SOURCE SUMMARY	5
A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]	
A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]	
A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)]	
A.4 Part 70 Permit Applicability [326 IAC 2-7-2]	
B. GENERAL CONDITIONS	7
B.1 Definitions [326 IAC 2-7-1]	
B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)] [IC 13-15-3-6(a)]	
B.3 Term of Conditions [326 IAC 2-1.1-9.5]	
B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]	
B.5 Severability [326 IAC 2-7-5(5)]	
B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]	
B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]	
B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]	
B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]	
B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 1-6-3]	
B.11 Emergency Provisions [326 IAC 2-7-16]	
B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]	
B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]	
B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]	
B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]	
B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]	
B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]	
B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12(b)(2)]	
B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]	
B.20 Source Modification Requirement [326 IAC 2-7-10.5]	
B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]	
B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]	
B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]	
B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]	
C. SOURCE OPERATION CONDITIONS	18
Emission Limitations and Standards [326 IAC 2-7-5(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]	
C.2 Opacity [326 IAC 5-1]	
C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]	
C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]	
C.5 Fugitive Dust Emissions [326 IAC 6-4]	
C.6 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]	
C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]	
Testing Requirements [326 IAC 2-7-6(1)]	
C.8 Performance Testing [326 IAC 3-6]	
Compliance Requirements [326 IAC 2-1.1-11]	
C.9 Compliance Requirements [326 IAC 2-1.1-11]	

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

- C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)][40 CFR 64][326 IAC 3-8]
- C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

- C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
- C.13 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]
- C.14 Response to Excursions or Exceedances [40 CFR 64][326 IAC 3-8][326 IAC 2-7-5][326 IAC 2-7-6]
- C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]
- C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]
- C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [40 CFR 64][326 IAC 3-8]

Stratospheric Ozone Protection

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

D.1. EMISSIONS UNIT OPERATION CONDITIONS..... 27

Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.1.1 PSD Minor Limit [326 IAC 2-2] [326 IAC 8-1-6]
- D.1.2 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-2] [326 IAC 7-2-1]
- D.1.3 Miscellaneous Operations: Asphalt Paving [326 IAC 8-5-2]
- D.1.4 Asphalt Shingle Requirement [40 CFR 60, Subpart M]
- D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

- D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]
- D.1.7 Sulfur Dioxide Emissions and Sulfur Content
- D.1.8 Particulate Matter (PM)
- D.1.9 Asbestos Shingle Content
- D.1.10 Lead Content

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

- D.1.11 Visible Emissions Notations
- D.1.12 Parametric Monitoring [40 CFR 64]
- D.1.13 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- D.1.14 Record Keeping Requirements
- D.1.15 Reporting Requirements

E.1. New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)] 36

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

- E.1.1 General Provisions Relating to New Source Performance Standards under 40 CFR Part 60 [326 IAC 12-1][40 CFR Part 60, Subpart A]
- E.1.2 Standards of Performance for Hot Mix Asphalt Facilities NSPS [40 CFR Part 60, Subpart I][326 IAC 12]

Certification 37
Emergency Occurrence Report 38
Quarterly Reports 40
Quarterly Deviation and Compliance Monitoring Report 43

Attachment A: Fugitive Dust Plan

Attachment B: NSPS, Subpart I

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 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]

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

Source Address:	1633 County Road 72, Huntertown, Indiana 46748
General Source Phone Number:	260-897-2743
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
County Location:	De Kalb
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD and Emission Offset Rules Major 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 2-7-4(c)(3)][326 IAC 2-7-5(14)]

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

- (a) One (1) continuous hot-mix asphalt plant, approved in 2014 for modification to use steel slag and certified ground asbestos-free shingles in the aggregate mix with a capacity of 250 tons of asphalt per hour, consisting of the following:
 - (1) one (1) natural gas aggregate dryer, with a capacity of 75 million British thermal units per hour (MMBtu/hr), with the capability to fire No. 2 distillate oil or re-refined waste oil as backup fuel, using a baghouse as control, and exhausting at stack S1, and
 - (2) cold feed bins, scalping screens, weigh conveyors, and a mixing drum, all using a baghouse as control, and exhausting at stack S1.

Under NSPS Subpart I, this asphalt plant is considered an affected facility.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4] [326 IAC 6-5]
- (b) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 3 lb/hr or 15 lb/day VOC; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:
 - (1) one (1) No. 2 distillate oil storage tank, with a capacity of 12,000 gallons, vented at stack S3;
 - (2) one (1) liquid asphalt cement storage tank, with a capacity of 20,000 gallons, vented at stack S4;

- (3) one (1) liquid asphalt cement storage tank, with a capacity of 25,000 gallons, vented at stack S5 and;
- (4) one (1) re-refined waste oil storage tank, with a capacity of 10,000 gallons, installed in 2005.
- (c) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour: one (1) 1.41 MMBtu/hr natural gas oil heater.
- d) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (e) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (f) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 3 lb/hr or 15 lb/day VOC; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:
 - (1) two (2) asphalt overflow storage silos; and
 - (2) one (1) lime storage silo, with a capacity of 75,000 tons.
 - (3) Storage piles for sand, limestone, reclaimed asphalt pavement (RAP), gravel, shingles, and steel slag.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

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 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

- (a) This permit, T033-34535-00055, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, 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 2-7-7] [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 2-7-5(5)]

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 2-7-5(6)(D)]

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

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(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 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

- (a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:
- (1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), 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) A "responsible official" is defined at 326 IAC 2-7-1(35).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

- (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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

- (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 2-7-5(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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 1-6-3]

- (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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (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.11 Emergency Provisions [326 IAC 2-7-16]

- (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.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a 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 2-7-5(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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (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 2-7-4(c)(8) 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 2-7 and any other applicable rules.
- (g) 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.

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced 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 Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.
- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to

be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

- (d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:
- (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;
 - (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;
 - (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and
 - (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.
- (e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).
- (f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]
- (g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

- (a) All terms and conditions of permits established prior to T033-34535-00055 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised under 326 IAC 2-7-10.5, or
 - (3) deleted under 326 IAC 2-7-10.5.
- (b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

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 2-7-3 and 326 IAC 2-7-4(a).

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 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 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (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 2-7-9(a)(3)]
- (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 2-7-9(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-7-9(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 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

- (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 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(42). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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 2-7 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 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs
[326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b) or (c) without a prior permit revision, if each of the following conditions is met:

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

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 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 2-7-20(b)(1) and (c)(1). 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 2-7-20(b)(1) and (c)(1).

- (b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(37)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

- (1) A brief description of the change within the source;
- (2) The date on which the change will occur;
- (3) Any change in emissions; and
- (4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (c) Emission Trades [326 IAC 2-7-20(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 2-7-20(c).
- (d) Alternative Operating Scenarios [326 IAC 2-7-20(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 2-7-5(9). No prior notification of IDEM, OAQ or U.S. EPA is required.
- (e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

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

B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

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 Part 70 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 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 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 substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

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

B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][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 2-7-5(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 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.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

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

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

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

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

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

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

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan as in Attachment A. The provisions of 326 IAC 6-5 are not federally enforceable.

C.7 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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (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. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (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.9 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 2-7-5(1)][326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)][40 CFR 64][326 IAC 3-8]

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

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

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

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (c) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
- (d) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

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

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

C.12 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.13 Risk Management Plan [326 IAC 2-7-5(12)] [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.14 Response to Excursions or Exceedances [40 CFR 64][326 IAC 3-8][326 IAC 2-7-5] [326 IAC 2-7-6]

- (l) Upon detecting an excursion where a response step is required by the D Section, or an exceedance of a limitation, not subject to CAM, 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.
- (II)
- (a) *CAM Response to excursions or exceedances.*
 - (1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
 - (2) 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, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

- (b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
- (c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a QIP. The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.
- (d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).
- (e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.
- (f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:
 - (1) Failed to address the cause of the control device performance problems; or
 - (2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.
- (h) *CAM recordkeeping requirements.*
 - (1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(a)(2) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.
 - (2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for

expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

- (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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

- (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
- (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(33) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

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

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:
 - (AA) All calibration and maintenance records.
 - (BB) All original strip chart recordings for continuous monitoring instrumentation.
 - (CC) Copies of all reports required by the Part 70 permit.Records of required monitoring information include the following, where applicable:

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

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

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

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]
[40 CFR 64][326 IAC 3-8]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

- (1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
- (2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
- (3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

- (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) continuous hot-mix asphalt plant, approved in 2014 for modification to use steel slag and certified ground asbestos-free shingles in the aggregate mix with a capacity of 250 tons of asphalt per hour, consisting of the following:
- (1) one (1) natural gas aggregate dryer, with a capacity of 75 million British thermal units per hour (MMBtu/hr), with the capability to fire No. 2 distillate oil or re-refined waste oil as backup fuel, using a baghouse as control, and exhausting at stack S1, and
 - (2) cold feed bins, scalping screens, weigh conveyors, and a mixing drum, all using a baghouse as control, and exhausting at stack S1.

Under NSPS Subpart I, this asphalt plant is considered an affected facility.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 PSD Minor Limit [326 IAC 2-2] [326 IAC 8-1-6]

- (a) In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the Permittee shall comply with the following:
- (1) The amount of hot-mix asphalt processed shall not exceed 1,550,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (2) PM emissions from the dryer/mixer shall not exceed 0.208 pounds per ton of asphalt processed.
 - (3) The PM10 emissions from the dryer/mixer shall not exceed 0.286 pounds per ton of asphalt processed.
 - (4) The PM2.5 emissions from the dryer/mixer shall not exceed 0.305 pounds per ton of asphalt processed.
 - (5) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.
 - (6) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.
 - (7) The sulfur content of the steel slag shall not exceed 0.66% by weight.
 - (8) The SO2 emissions from the steel slag use in the dryer/mixer shall not exceed 0.0014 pounds per ton of slag processed.

Compliance with these limits, combined with the potential to emit PM, PM10, PM2.5, CO, VOC, and SO2 from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Compliance with the production and VOC limits shall limit VOC emissions from the dryer-mixer to less than 25 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 8-1-6 not applicable to the dryer-mixer.

- (b) The usage of binders in the production of cold-mix asphalt shall be limited such that the VOC emissions are limited to 210 tons per twelve (12) consecutive month period. In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the liquid binder used in cold mix asphalt production shall be limited as follows:
- (1) Cutback asphalt rapid cure liquid binder usage shall not exceed 221.1 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (2) Cutback asphalt medium cure liquid binder usage shall not exceed 300 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (3) Cutback asphalt slow cure liquid binder usage shall not exceed 840 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (4) Emulsified asphalt with solvent liquid binder usage shall not exceed 452.6 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (5) Other asphalt with solvent liquid binder shall not exceed 8400 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (6) The VOC solvent allotments in paragraphs (1) through (5) above shall be adjusted when more than one type of binder is used per twelve (12) month consecutive period, with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, the Permittee shall use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment ratio listed in the table that follows.

$$\frac{\text{Tons of solvent contained in binder}}{\text{Adjustment ratio}} = \text{tons of VOC emitted}$$

Type of binder	Tons VOC Solvent	Adjustment Ratio	Tons VOC Emitted
Cutback Asphalt Rapid Cure		1.053	
Cutback Asphalt Medium Cure		1.429	
Cutback Asphalt Slow Cure		4.0	
Emulsified Asphalt		2.155	
Other Asphalt		40	

Liquid binders 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% of the liquid binder by weight of VOC (solvent) and 95% by weight of VOC (solvent) evaporating.
- (B) 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.
- (C) 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.
- (D) Emulsified asphalt with solvent, containing a maximum of 15% of liquid binder by weight of VOC solvent and 46.4% by weight of the VOC (solvent) in the liquid blend evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be 7% or less of the total emulsion by volume.
- (E) Other asphalt with solvent binder, containing a maximum 25.9% of the liquid binder of VOC (solvent) and 2.5% by weight of the VOC (solvent) evaporating.

Compliance with this limit shall limit the potential to emit VOC from cutback and emulsified asphalt usage to less than 210 tons per twelve (12) consecutive month period, and the total source potential to emit VOC to less than 250 tons per twelve (12) consecutive month period, including the heater, the aggregate dryer burner, storage, silo filling, and load out, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable with respect to VOC emissions.

- (c) The sulfur content of the No. 2 distillate oil used in the aggregate dryer/mixer burner shall not exceed 0.5% by weight. The sulfur content of the re-refined waste oil used in the aggregate dryer/mixer burner shall not exceed 0.5% by weight. Compliance with these limits shall limit the sourcewide potential to emit SO₂ to less than 250 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.
- (d) The Permittee shall not use blast furnace slag as an aggregate additive in its hot-mix asphalt operations. Compliance with this requirement, combined with the potential SO₂ emissions from all other emission units at this source, shall limit the source-wide total potential to emit SO₂ to less than 250 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-2 (PSD) not applicable and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.
- (e) The lead (Pb) content of the re-refined waste oil shall not exceed 0.1% by weight. Compliance with this limit shall ensure the lead emissions are less than twenty-five (25) tons per twelve (12) consecutive month period based on the AP-42 waste oil lead (Pb) emission factor (AP-42 Chapter 1.11, Table 1.11-1) and shall render the requirements of 326 IAC 2-2 (PSD) not applicable with respect to lead emissions.

D.1.2 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-2] [326 IAC 7-2-1]

- (a) Pursuant to 326 IAC 7-1.1-2, the sulfur dioxide emissions from combustion of the distillate oil (No. 2) used in the aggregate dryer/mixer shall not exceed 0.5 pounds per MMBtu. This equates to a fuel oil sulfur content limit of 0.493% by weight. This limit does

not apply to the combustion of natural gas. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

- (b) Pursuant to 326 IAC 7-1.1-2, the sulfur dioxide emissions from combustion of the residual oil (waste oil) used in the aggregate dryer/mixer shall not exceed 1.6 pounds per MMBtu. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.1.3 Miscellaneous Operations: Asphalt Paving [326 IAC 8-5-2]

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

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

D.1.4 Asphalt Shingle Requirement [40 CFR 61, Subpart M]

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits) and 40 CFR 61, Subpart M (National Emission Standards for Asbestos) not applicable, the Permittee shall not grind recycled asphalt shingles on-site and shall only use the following as an additive in its aggregate mix:

- (a) Certified asbestos-free factory second asphalt shingles;
- (b) Post consumer waste shingles generated at single family homes and/or residential buildings containing four or fewer dwelling units; and/or
- (c) Factory second shingles and/or post consumer waste shingles that have sampled negative for asbestos.

Compliance with these limits shall render the requirements of 40 CFR 61, Subpart M (National Emission Standard for Asbestos), not applicable.

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the hot-mix asphalt plant and its baghouse.

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

No later than five (5) years from the most recent valid compliance demonstration, in order to demonstrate compliance with Conditions D.1.1(a)(2), D.1.1(a)(3) and D.1.1(a)(4), the Permittee shall perform PM, PM10, and PM2.5 testing of the dryer/mixer utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable PM.

D.1.7 Sulfur Dioxide Emissions and Sulfur Content

Fuel Oil

Compliance with Conditions D.1.1(c) and D.1.2 shall be determined utilizing one of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions and sulfur content do not exceed the limits under Conditions D.1.1(c) and D.1.2 by:
 - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the aggregate dryer/mixer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

Steel Slag

- (c) Compliance with the steel slag limitations established in Conditions D.1.1(a)(7) and D.1.1(a)(8) shall be determined utilizing one of the following options. Pursuant to 326 IAC 2-8-4 (FESOP), compliance shall be demonstrated on a thirty (30) day calendar-month average.
 - (1) Maintaining all records of vendor analyses or certifications of slag delivered; or
 - (2) Analyzing a sample of the steel slag delivery if no vendor analyses or certifications are available, at least once per quarter, to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the aggregate dryer/mixer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

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

D.1.8 Particulate Matter (PM)

In order to comply with Conditions D.1.1(a)(2), D.1.1(a)(3), and D.1.1(a)(4) the baghouse for PM/PM₁₀/PM_{2.5} control shall be in operation at all times when the aggregate dryer/mixer, cold feed bins, scalping screens, weigh conveyors, and/or the mixing drum are in operation.

D.1.9 Shingle Asbestos Content

Compliance with Condition D.1.4 shall be determined utilizing one of the following options:

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

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

D.1.10 Lead Content

Compliance with the lead content limit established in Condition D.1.1(e) shall be determined by providing a vendor analysis of each re-refined waste oil delivery accompanied by a vendor certification.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.1.11 Visible Emissions Notations

- (a) Visible emission notations from the conveyors, screens, material transfer points, and dryer/mixer stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.1.12 Parametric Monitoring [40 CFR Part 64]

The Permittee shall record the pressure drop across the baghouse used in conjunction with the dryer/mixer, cold feed bins, scalping screens, weigh conveyors, and the mixing drum, at least once per day when the dryer/mixer, cold feed bins, scalping screens, weigh conveyors, and/or the mixing drum are in operation. When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between two (2.0) and eight (8.0) inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A

pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.1.13 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For a single compartment baghouses 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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.14 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.1(a)(1) the Permittee shall keep records of the amount of asphalt processed through the dryer/mixer each month and each compliance period. Records necessary to demonstrate compliance shall be available no later than thirty (30) days of the end of each compliance period.
- (b) To document the compliance status with Conditions D.1.1(b) and D.1.3, the Permittee shall maintain the following records to document VOC emissions:
 - (1) Amount and type of liquid binder used in the production of cold mix asphalt each month.
 - (2) Type and VOC content by weight of the liquid binder used in the production of cold mix asphalt each month.
 - (3) Amount of VOC emitted in the production of cold mix asphalt each month and each compliance period.

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

- (c) To document the compliance status with Conditions D.1.1(a)(7), D.1.1(a)(8), D.1.1(c), D.1.1(d), D.1.1(e), D.1.2, and D.1.7 the Permittee shall maintain records in accordance with (1) through (7) below.
- (1) Calendar dates covered in the compliance determination period;
 - (2) The sulfur content of No. 2 distillate oil and re-refined waste oil and the equivalent sulfur dioxide emissions;
 - (3) The lead content of the re-refined waste oil;
 - (3) To certify compliance when burning natural gas only, the Permittee shall maintain records of fuel used;
 - (4) If the fuel supplier certification is used to demonstrate compliance, when burning No. 2 distillate oil or re-refined waste oil, the following, as a minimum, shall be maintained:
 - (A) Fuel supplier certifications;
 - (B) The name of the fuel supplier; and
 - (C) A statement from the fuel supplier that certifies the sulfur content of the No. 2 distillate oil and re-refined waste oil and the lead content of the re-refined waste oil.
 - (5) The sulfur content and equivalent sulfur dioxide emission rates for the steel slag used at the source;
 - (6) A certification, signed by the owner or operator, that the records of the steel slag supplier certifications represent all of the steel slag used during the period; and
 - (7) If the slag supplier certification is used to demonstrate compliance, the following, as a minimum, shall be maintained:
 - (A) Steel slag supplier certifications;
 - (B) The name of the steel slag supplier; and
 - (C) A statement from steel slag supplier that certifies the sulfur content of the steel slag.
- (d) To document the compliance status with Condition D.1.3, where cutback asphalt or asphalt emulsion contains more than seven percent (7%) oil distillate by volume of emulsion, the Permittee shall maintain records sufficient to demonstrate that the paving application was used in accordance with the provisions in Condition D.1.3, paragraphs (a) through (c).
- (e) To document the compliance status with Condition D.1.11, the Permittee shall maintain daily records of the visible emission notations from each of the conveyors, screens, material transfer points, and dryer/mixer stack exhaust. 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).
- (f) To document the compliance status with Condition D.1.12, the Permittee shall maintain records once per day of the pressure drop during normal operation. The Permittee shall

include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).

- (g) To document the compliance status with Conditions D.1.4 and D.1.9, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) below shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.4 and D.1.9.
- (1) Calendar dates covered in the compliance determination period;
 - (2) If the factory second shingle supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (A) Factory second shingle supplier certifications;
 - (B) The name of the factory second shingle supplier(s); and
 - (C) A statement from the factory second shingle supplier(s) that certifies the shingles from their company do not contain asbestos.
 - (3) If the post consumer waste shingle supplier certification is used to demonstrate compliance, the following as a minimum, shall be maintained:
 - (A) Post consumer waste shingle supplier certifications;
 - (B) The name of the post consumer waste shingle supplier(s); and
 - (C) A statement from the post consumer shingle supplier(s) that certifies the shingles were generated at single family homes and/or residential buildings containing four or fewer dwelling units.
 - (4) If the factory second shingles and/or post consumer waste shingles are analyzed to determine the asbestos content, the following, as a minimum, shall be maintained:
 - (A) The name of the shingle supplier(s);
 - (B) The name of the certified lab or certified personnel that performed the shingle asbestos content analysis; and
 - (C) The shingle asbestos content analysis results.
- (h) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.15 Reporting Requirements

Quarterly summaries of the information to document the compliance status with Condition D.1.1(a) and Condition D.1.1(b) shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The reports submitted by the Permittee do require a certification that meets the requirements of 326 IAC 2-7-1(35) by the "responsible official" as defined by 326 IAC 2-1.1-1(1).

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

Emissions Unit Description:

- (a) One (1) continuous hot-mix asphalt plant, approved in 2014 for modification to use steel slag and certified ground asbestos-free shingles in the aggregate mix with a capacity of 250 tons of asphalt per hour, consisting of the following:
- (1) one (1) natural gas aggregate dryer, with a capacity of 75 million British thermal units per hour (MMBtu/hr), with the capability to fire No. 2 distillate oil or re-refined waste oil as backup fuel, using a baghouse as control, and exhausting at stack S1, and
 - (2) cold feed bins, scalping screens, weigh conveyors, and a mixing drum, all using a baghouse as control, and exhausting at stack S1.

Under NSPS Subpart I, this asphalt plant is considered an affected facility.

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

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

E.1.1 General Provisions Relating to New Source Performance Standards under 40 CFR Part 60 [326 IAC 12-1][40 CFR Part 60, Subpart A]

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

- (b) Pursuant to 40 CFR 60.19, 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 Standards of Performance for Hot Mix Asphalt Facilities NSPS [40 CFR Part 60, Subpart I] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart I, the Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart I, Standard of Performance for Hot Mix Asphalt Facilities (included as Attachment B to this permit), , which are incorporated by reference as 326 IAC 12, for the hot-mix asphalt plant as follows:

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION**

Source Name: API Construction Corporation
Source Address: 1633 County Road 72, Huntertown, Indiana 46748
Part 70 Permit No.: T033-34535-00055

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:

Phone:

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**

**PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT**

Source Name: API Construction Corporation
Source Address: 1633 County Road 72, Huntertown, Indiana 46748
Part 70 Permit No.: T033-34535-00055

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) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

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
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**

Part 70 Quarterly Report

Source Name: API Construction Corporation
Source Address: 1633 County Road 72, Huntertown, Indiana 46748
Part 70 Permit No.: T033-34535-00055
Facility: Asphalt plant
Parameter: Asphalt production
Limit: Asphalt production shall not exceed 1,550,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

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

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.

Deviation has been reported on: _____

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

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

Part 70 Usage Report
 (Submit Report Quarterly)

Source Name: API Construction Corporation
 Source Address: 1633 County Road 72, Huntertown, Indiana 46748
 Mailing Address: PO Box 191, La Otto, Indiana 46763
 Part 70 Permit No.: T033-34535-00055
 Facility: Cold-Mix Asphalt Production
 Parameter: VOC Solvent Usage in Liquid Binders
 Limit: Cutback asphalt rapid cure liquid binder usage shall not exceed 221.1 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month. Cutback asphalt medium cure liquid binder usage shall not exceed 300 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month. Cutback asphalt slow cure liquid binder usage shall not exceed 840 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month. Emulsified asphalt with solvent liquid binder usage shall not exceed 452.6 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month. Other asphalt with solvent liquid binder shall not exceed 8400 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

The following liquid binder solvent was the only liquid binder solvent used over the previous 12 month period: _____ Limit applicable: _____

(use of more than one binder requires the use of the "Multiple Liquid Binder Solvents" report form)

Month	VOC Solvent Usage (tons)		
	This Month	Previous 11 Months	12 Month Total

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

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

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

Multiple Liquid Binder Solvent Quarterly Report

Source Name: API Construction Corporation
 Source Address: 1633 County Road 72, Huntertown, Indiana 46748
 Part 70 Permit No.: T033-34535-00055
 Facility: Cold-Mix Asphalt Production
 Parameter: VOC Emissions
 Limit: 210 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

QUARTER: _____ YEAR: _____

Month	Type of Liquid binder	Solvent Usage This Month (tons)	Divisor	VOC emitted This Month (tons) for each solvent	VOC emitted This Month (tons)	VOC emitted Previous 11 Months (tons)	This month + Previous 11months =VOC emitted 12 Month Total (tons)
	Cutback asphalt rapid cure		1.053				
	Cutback asphalt medium cure		1.429				
	Cutback asphalt slow cure		4.0				
	Emulsified asphalt		2.155				
	other asphalt		40				
	Cutback asphalt rapid cure		1.053				
	Cutback asphalt medium cure		1.429				
	Cutback asphalt slow cure		4.0				
	Emulsified asphalt		2.155				
	other asphalt		40				
	Cutback asphalt rapid cure		1.053				
	Cutback asphalt medium cure		1.429				
	Cutback asphalt slow cure		4.0				
	Emulsified asphalt		2.155				
	other asphalt		40				

- 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
 PART 70 OPERATING PERMIT
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: API Construction Corporation
 Source Address: 1633 County Road 72, Huntertown, Indiana 46748
 Part 70 Permit No.: T033-34535-00055

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

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

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

Attachment A

API Construction Corporation T033-34535-00055

FUGITIVE DUST CONTROL PLAN

1. API Construction Corporation
County Road 72, one mile east of old State Road 327
Near Garrett, Indiana
2. Responsible Official: Kirk Braun, President
API Construction Corporation
11808 SR 204E
P.O. Box 191
LaOtto, Indiana 46763
Phone: (219) 897-2743
3. The frequency of application of water and/or chemical dust suppressants shall be on an "as needed basis" as defined in 326 IAC 6-5-2 and sufficient to prevent violations of 326 IAC 6-4. Chemical dust suppressants, as used in this plan, shall mean calcium chloride or other dust suppressants approved by the commissioner.
4. Identification of Fugitive Emissions Processes and Proposed Fugitive Dust Control Method:
 - a. Paved Roads and Parking Areas: Fugitive PM emissions shall be controlled by flushing with water on an as needed basis.
 - b. Unpaved Roads and Yard Areas: Fugitive PM emissions shall be controlled by treating with water and/or chemical dust suppressants or double chip and seal on an as needed basis.
 - c. Aggregate Storage Piles: Fugitive PM emissions shall be controlled by treating with water and/or chemical dust suppressants and by cleaning the area around the piles on an as needed basis.
 - d. Aggregate Handling, including Loading into aggregate bins and Conveying with rough screening: Fugitive PM emissions shall be controlled by the treatment of aggregate piles as stated in 4.b. above on an as needed basis and enclosure of conveyors, rough screens and elevators. These measures will result in an estimated 50% control efficiency.
 - e. Transportation of Aggregate via trucks and front end loaders: Fugitive PM emissions shall be controlled by the treatment of aggregate piles as stated in 4.b. above, tarping of trucks and maintaining truck bodies to prevent leaks on an as needed basis.
 - f. Loading the Lime Silo: Fugitive PM emissions shall be controlled by the plant baghouse.
 - g. Asphalt Plant, including the Aggregate Drier and mixing drum: Fugitive PM emissions shall be controlled by the plant baghouse.
5. Map of Source: The map of this source has been submitted as part of construction permit application submitted July 15, 1995.
6. Paved Road Vehicle Mix: Approximately 85% of vehicular traffic will be dump trucks having a 20 ton payload capacity. The remaining traffic will consist of automobiles and light trucks.

7. Type and Quality of Material Handled: Aggregate will consist of sand, gravel and crushed stone and will be handled at a maximum rate of 250 tons per hour.
8. Equipment: A water wagon tank truck and/or front end loaders will be used to maintain roads, yards and storage piles.
9. Dust Suppressant Material: Water will be the primary dust suppressant. Water has an estimated 50% control efficiency. Calcium chloride or other approved chemical dust suppressants may be added on an as needed basis to further reduce emissions of fugitive dust. Such chemical dust suppressants will be mixed and applied as recommended by the product manufacturer.
10. Schedule of Compliance: The above dust control measures will be implemented throughout the construction of the plant and upon operation of the plant.
11. Equipment Maintenance Plan: The water truck and plant baghouse shall be serviced monthly or on an as needed basis, whichever is more frequent, to maintain the equipment in proper working condition.

Attachment B

API Construction Corporation T033-34535-00055

Title 40: Protection of Environment

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 Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	API Construction Corporation
Source Location:	1633 County Road 72, Huntertown, Indiana 46748
County:	DeKalb
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
Permit Renewal No.:	T033-34535-00055
Permit Reviewer:	Brian Wright

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-mix asphalt plant. On May 14, 2014, API Construction Corporation submitted an application to the OAQ requesting to renew its operating permit. API Construction Corporation was issued its second Part 70 Operating Permit Renewal (T033-28346-00055) on April 13, 2010.

The applicant has requested the renewal allow for the use of steel slag and ground shingles in the aggregate mix processed in the dryer/mixer. The shingles will not be ground onsite. Therefore, the permit contains new or different permit conditions. In addition, some conditions from previously issued permits/approvals have been corrected, changed or removed. These corrections, changes, and removals may include Title I changes.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

- (a) One (1) continuous hot-mix asphalt plant, approved in 2014 for modification to use steel slag and certified ground asbestos-free shingles in the aggregate mix with a capacity of 250 tons of asphalt per hour, consisting of the following:
 - (1) one (1) natural gas aggregate dryer, with a capacity of 75 million British thermal units per hour (MMBtu/hr), with the capability to fire No. 2 distillate oil or re-refined waste oil as backup fuel, using a baghouse as control, and exhausting at stack S1, and
 - (2) cold feed bins, scalping screens, weigh conveyors, and a mixing drum, all using a baghouse as control, and exhausting at stack S1.

Under NSPS Subpart I, this asphalt plant is considered an affected facility.

Insignificant Activities

The source also consists of the following insignificant activities:

- (a) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4] [326 IAC 6-5]
- (b) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 3 lb/hr or 15 lb/day VOC; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:
 - (1) one (1) No. 2 distillate oil storage tank, with a capacity of 12,000 gallons, vented at stack S3;

- (2) one (1) liquid asphalt cement storage tank, with a capacity of 20,000 gallons, vented at stack S4;
 - (3) one (1) liquid asphalt cement storage tank, with a capacity of 25,000 gallons, vented at stack S5 and;
 - (4) one (1) re-refined waste oil storage tank, with a capacity of 10,000 gallons, installed in 2005.
- (c) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour: one (1) 1.41 MMBtu/hr natural gas oil heater.
- (d) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (e) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (f) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 3 lb/hr or 15 lb/day VOC; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:
- (1) two (2) asphalt overflow storage silos; and
 - (2) one (1) lime storage silo, with a capacity of 75,000 tons.
 - (3) Storage piles for sand, limestone, reclaimed asphalt pavement (RAP), gravel, shingles, and steel slag.

Existing Approvals

The source was issued Part 70 Operating Permit No. T033-28346-00055 on April 13, 2010. There have been no subsequent approvals issued.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in DeKalb County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard. ¹
PM _{2.5}	Unclassifiable or attainment effective April 5, 2005, for the annual PM _{2.5} standard.
PM _{2.5}	Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM _{2.5} standard.
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.

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

- (a) **Ozone Standards**
 Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. DeKalb 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}**
 DeKalb County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**
 DeKalb County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions, from the affected facility 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	30,783
PM ₁₀	7,155
PM _{2.5}	1,660
SO ₂	172.45
NO _x	60.84
VOC	26,372
CO	146.02
GHGs as CO ₂ e	54,268
Single HAP	2,369 (xylenes)
Total HAP	6,910

Appendix A 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, PM_{2.5}, SO₂, VOC, and CO is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-

1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, because the source met the following:

- (a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.
- (b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any new control equipment is considered federally enforceable only after issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
	PM	PM ₁₀ *	PM _{2.5} *	SO ₂	NO _x	VOC	CO	GHGs	Total HAPs	Worst Single HAP
Dryer Fuel Combustion (worst case)	75.09	59.83	59.83	172.46	46.93	2.35	27.59	53,033	45.24	30.97 (HCl)
Dryer/Mixer (Process)	161.09	221.88	236.52	44.95	42.63	24.80	100.75	25,808	8.26	2.40 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	1.09	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion/Process (worst case)	0.01	0.05	0.05	0.00	0.62	0.03	0.52	1,235	0.01	0.011 (hexane)
Fugitive Emissions	87.90	27.08	12.44	0	0	223.28	2.23	0.00	55.00	18.90 (xylenes)
Total PTE of Entire Source	249.00	249.00	249.00	173.55	47.55	248.11	103.50	54,268	100.25	30.97 (HCl)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000 CO _{2e}	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	NA	NA	NA

negl. = negligible; HCl = hydrogen chloride;
 * Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a regulated air pollutant".
 **PM_{2.5} listed is direct PM_{2.5}.

The renewal allows for the use of steel slag and certified ground asbestos-free shingles in the aggregate mix processed in the dryer/mixer. The addition of steel slag to the permit will not change the PSD minor status or SO2 emission limits, because the potential to emit of SO2 from the entire source will continue to be limited to less than the PSD major source threshold levels. The use of blast furnace slag will continue to be prohibited by this permit since the blast furnace slag has a higher sulfur content than steel slag.

API Construction does not intend to grind shingles at this plant; therefore, they will be required to use/purchase only supplier certified asbestos-free factory seconds and/or post consumer waste

shingles for use in their aggregate mix. This requirement will be added to the permit because it is the physical act of grinding that releases asbestos into the air. Consequently, the company performing the grinding would need to test the shingles, prior to grinding, in order for the testing to be effective. A new condition limiting the use of asphalt shingles in the aggregate mix to only those that are asbestos-free, will be added to the permit.

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

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

PSD Minor Status

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

Particulate Matter (PM) PSD Minor Limitations [326 IAC 2-2]

This existing stationary source is not major for PSD because the emissions of each regulated pollutant are less than two hundred fifty (250) tons per year and it is not in one of the twenty-eight (28) listed source categories.

- (a) In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:
- (1) The amount of hot-mix asphalt processed shall not exceed 1,550,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (2) PM emissions from the dryer/mixer shall not exceed 0.208 pounds per ton of asphalt processed.
 - (3) The PM10 emissions from the dryer/mixer shall not exceed 0.286 pounds per ton of asphalt processed.
 - (4) The PM2.5 emissions from the dryer/mixer shall not exceed 0.305 pounds per ton of asphalt processed.
 - (5) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.
 - (6) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.
 - (7) The sulfur content of the steel slag shall not exceed 0.66% by weight.
 - (8) The SO2 emissions from the steel slag use in the dryer/mixer shall not exceed 0.0014 pounds per ton of slag processed.

Compliance with these limits, combined with the potential to emit PM, PM10, PM2.5, CO, VOC, and SO2 from all other emission units at this source, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, CO, VOC, and SO2 to less than 250 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

(b) Liquid Binder Limitations

The usage of binders in the production of cold-mix asphalt shall be limited such that the VOC emissions are limited to 210 tons per twelve (12) consecutive month period. In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the liquid binder used in cold mix asphalt production shall be limited as follows:

- (1) Cutback asphalt rapid cure liquid binder usage shall not exceed 221.1 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) Cutback asphalt medium cure liquid binder usage shall not exceed 300 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (3) Cutback asphalt slow cure liquid binder usage shall not exceed 840 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (4) Emulsified asphalt with solvent liquid binder usage shall not exceed 452.6 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (5) Other asphalt with solvent liquid binder shall not exceed 8400 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (6) The VOC solvent allotments in paragraphs (1) through (5) above shall be adjusted when more than one type of binder is used per twelve (12) month consecutive period, with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, the Permittee shall use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment ratio listed in the table that follows.

$$\frac{\text{Tons of solvent contained in binder}}{\text{Adjustment ratio}} = \text{tons of VOC emitted}$$

Type of binder	Tons VOC Solvent	Adjustment Ratio	Tons VOC Emitted
Cutback Asphalt Rapid Cure		1.053	
Cutback Asphalt Medium Cure		1.429	
Cutback Asphalt Slow Cure		4.0	
Emulsified Asphalt		2.155	
Other Asphalt		40	

Liquid binders 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% of the liquid binder by weight of VOC (solvent) and 95% by weight of VOC (solvent) evaporating.
- (B) 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.
- (C) 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.
- (D) Emulsified asphalt with solvent, containing a maximum of 15% of liquid binder by weight of VOC solvent and 46.4% by weight of the VOC (solvent) in the liquid blend evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be 7% or less of the total emulsion by volume.
- (E) Other asphalt with solvent binder, containing a maximum 25.9% of the liquid binder of VOC (solvent) and 2.5% by weight of the VOC (solvent) evaporating.

Compliance with this limit shall limit the potential to emit VOC from cutback and emulsified asphalt usage to less than 210 tons per twelve (12) consecutive month period, and the total source potential to emit VOC to less than 250 tons per twelve (12) consecutive month period, including the heater, the aggregate dryer burner, storage, silo filling, and load out, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable with respect to VOC emissions.

- (c) The sulfur content of the No. 2 distillate oil used in the aggregate dryer/mixer burner shall not exceed 0.5% by weight. The sulfur content of the re-refined waste oil used in the aggregate dryer/mixer burner shall not exceed 0.5% by weight. Compliance with these limits shall limit the sourcewide potential to emit SO₂ to less than 250 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.
- (d) The Permittee shall not use blast furnace slag as an aggregate additive in its hot-mix asphalt operations. Compliance with this requirement, combined with the potential SO₂ emissions from all other emission units at this source, shall limit the source-wide total potential to emit SO₂ to less than 250 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-2 (PSD) not applicable and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.
- (e) The lead (Pb) content of the re-refined waste oil shall not exceed 0.1% by weight. Compliance with this limit shall ensure the lead emissions are less than twenty-five (25) tons per twelve (12) consecutive month period based on the AP-42 waste oil lead (Pb) emission factor (AP-42 Chapter 1.11, Table 1.11-1) and shall render the requirements of 326 IAC 2-2 (PSD) not applicable with respect to lead emissions.

Sulfur Dioxide (SO₂) Emissions [326 IAC 7-1.1-1][326 IAC 7-2-1]

- (a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 120 million Btu per hour burner for the aggregate dryer shall be limited to 0.5 pounds per million Btu heat input when using distillate oil.

- (b) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 120 million Btu per hour burner for the aggregate dryer shall be limited to 1.6 pounds per million Btu heat input when using residual oil or waste oil.

Note: No. 2 fuel oil, No. 4 fuel oil, and diesel fuel oil are considered distillate oils, and waste oil and refinery blend fuel oil is considered residual oil.

Recycled Asphalt Shingles

- (a) In order to render the requirements of 40 CFR 61, Subpart M (National Emission Standards for Asbestos) not applicable, the Permittee shall not grind recycled asphalt shingles on-site and shall only use the following as an additive in its aggregate mix:

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

Compliance with these limits shall render the requirements of 326 IAC 2-7 40 CFR 61, Subpart M (National Emission Standard for Asbestos), not applicable.

Federal Rule Applicability

Compliance Assurance Monitoring (CAM)

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to existing emission units that involve a pollutant-specific emission unit and meet the following criteria:
- (1) has a potential to emit before controls equal to or greater than the major source threshold for the pollutant involved;
 - (2) is subject to an emission limitation or standard for that pollutant; and
 - (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each existing emission unit and specified pollutant subject to CAM:

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Aggregate Dryer/Mixer - PM	Y	Y	30,660	126.53	100	Y	N
Aggregate Dryer/Mixer - PM10	Y	Y	7,117.5	211.67	100	Y	N
Aggregate Dryer/Mixer - PM2.5	Y	Y	1,642.5	232.35	100	Y	N
Silo Filling/Load-out/On-site Yard - PM/PM10/PM2.5	N	Y	<1	<1	100	N	N
Silo Filling/Load-out/On-site Yard - VOC	N	N	18.76	13.34	100	N	N
Hot Oil & Asphalt Heater - VOC	N	N	0.03	0.03	100	N	N
Material Storage Piles - PM/PM10/PM2.5	N	Y	<5	<5	100	N	N
Material Processing & Handling - PM/PM10/PM2.5	N	Y	<10	<10	100	N	N
Material Crushing, Screening & Conveying - PM/PM10/PM2.5	N	Y	<40	<40	100	N	N
Paved & Unpaved Roads - PM/PM10/PM2.5	N	Y	<80	<80	100	N	N
Cold Mix Asphalt Production - VOC	N	Y	26,318.33	210	100	N	N
Volatile Organic Storage Vessels - VOC	N	N	negligible	negligible	100	N	N

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to aggregate dryer/mixer for PM, PM₁₀, and PM_{2.5}. A CAM plan has been submitted and the Compliance Determination and Monitoring Requirements section includes a detailed description of the CAM requirements.

New Source Performance Standards (NSPS)

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

The hot-mix asphalt facility and associated processes are subject to the following portions of 40 CFR 60, Subpart I:

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

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

- (c) The requirements of the New Source Performance Standards (NSPS) for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 (40 CFR Part 60, Subpart K) (326 IAC 12) are not included in the permit for the 25,000-gallon liquid asphalt cement storage tank, the 20,000-gallon liquid asphalt cement storage tank, the 10,000-gallon re-refined waste oil storage tank, and the 12,000-gallon No. 2 distillate oil storage tank, because none of the storage vessels at the source were constructed between June 11, 1973, and May 19, 1978.
- (d) The requirements of the New Source Performance Standards (NSPS) for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR Part 60, Subpart Ka, are not included in this permit for 25,000-gallon liquid asphalt cement storage tank, the 20,000-gallon liquid asphalt cement storage tank, the 10,000-gallon re-refined waste oil storage tank, and the 12,000-gallon No. 2 distillate oil storage tank because none of the storage vessels at the source were constructed between May 18, 1978, and July 23, 1984.
- (e) The New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, 40 CFR Part 60, Subpart Kb, are not included in this permit for the 20,000-gallon liquid asphalt cement storage tank and the 25,000-gallon liquid asphalt cement storage tank because they have capacities greater than 75 m³ (19,813 gallons) but less than 151 m³ (39,888 gallons) and store organic liquids with a maximum true vapor pressure less than 15.0 kPa.
- (f) The requirements of the New Source Performance Standard for Asphalt Processing and Asphalt Roofing Manufacture, 40 CFR 60, Subpart UU (326 IAC 12), are not included in the permit, since pursuant to 40 CFR 60.471, the stationary drum hot-mix asphalt plant is not an asphalt processing plant because it does not blow asphalt, or an asphalt roofing plant because it does not produce asphalt roofing products, and pursuant to 40 CFR 60.101(a) the stationary drum hot-mix asphalt plant is not a petroleum refinery because it is not engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives.
- (g) The requirements of the New Source Performance Standard for Calciners and Dryers in Mineral Industries, 40 CFR 60, Subpart UUU (326 IAC 12), are not included in the permit, since a stationary drum hot-mix asphalt plant is not a mineral processing plant, meaning that it does not process or produce any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.
- (h) There are no other New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (i) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Asphalt Processing and Asphalt Roofing Manufacturing, Subpart LLLLL, are not included in the permit for the source, since this source does not perform asphalt flux preparation, does not manufacture asphalt roofing products, and is not a major source of hazardous air pollutants (HAPs).
- (j) The requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for Source Category: Gasoline Dispensing Facilities, 40 CFR 63, Subpart CCCCC, are not included in this permit, since the dispensing facility at this source does not load gasoline.

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

State Rule Applicability - Entire Source

326 IAC 1-6-3 (Preventive Maintenance Plan)

The source is subject to 326 IAC 1-6-3.

326 IAC 1-5-2 (Emergency Reduction Plans)

The source has submitted an Emergency Reduction Plan (ERP) in January 2000

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have an operating permit pursuant to 326 IAC 2-7 (Part 70). The potential to emit of PM10, PM2.5, SO2, and VOC is greater than 250 tons per year. Therefore, pursuant to 326 IAC 2-6-3(a)(1), annual reporting is required. An emission statement shall be submitted by July 1, 2016 and every year thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)

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

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

326 IAC 6-4 (Fugitive Dust Emissions)

The source is subject to 326 IAC 6-4 because the source maintains paved and unpaved roads and parking lots with public access. 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.

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

This stationary asphalt plant is subject to the requirements of 326 IAC 6-5 because it is a source of fugitive particulate matter and was constructed after December 13, 1985. The source has submitted a fugitive dust control plan. A copy of the plan is included as Attachment A to the permit.

326 IAC 12 (New Source Performance Standards)

See Federal Rule Applicability Section of this TSD.

326 IAC 20 (Hazardous Air Pollutants)

See Federal Rule Applicability Section of this TSD.

State Rule Applicability – Individual Facilities

Dryer/Mixer

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

Pursuant to the applicability determination in 326 IAC 6-3-1(c), the requirements of 326 IAC 6-3 do not apply to the hot-mix asphalt operations at this source, because the particulate matter emission limit required in 326 IAC 12 (New Source Performance Standard for Hot Mix Asphalt

Facilities, 40 CFR 60, Subpart I, incorporated by reference) is more stringent than the particulate limitation required by 326 IAC 6-3, as follows:

- (a) *Particulate limit from 326 IAC 6-3-2:*
Particulate from the aggregate dryer burner shall be limited to 60.96 pounds per hour when operating at a process weight rate of 250 tons per hour. Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

- (b) *Particulate limit from 326 IAC 12 (40 CFR 60, Subpart I):*
Particulate from the hot-mix asphalt facility shall not exceed 0.04 gr/dscf (at an air flow rate of 45,000 acfm and an average temperature of 250 °F, this is equivalent to 11.51 pounds per hour).

Therefore, 326 IAC 6-3-2 does not apply.

326 IAC 7-1.1-2 (Sulfur Dioxide Limitations)

The aggregate dryer/mixer is subject to the requirements of 326 IAC 7-1.1 (Sulfur Dioxide Emissions), because the uncontrolled potential to emit of SO₂ is greater than twenty-five (25) tons per year.

- (a) Pursuant to 326 IAC 7-1.1-2, the sulfur dioxide emissions from combustion of the residual oil (waste oil) used in the aggregate dryer/mixer shall not exceed 1.6 pounds per MMBtu. This equates to a fuel oil sulfur content limit of 1.6%. However, the source has requested that the aggregate dryer continue to be limited to a re-refined fuel sulfur content of 0.5% by weight. This limit does not apply to the combustion of natural gas. The waste oil sulfur dioxide emissions are calculated as follows:

$$\frac{1 \text{ gal fuel}}{0.14 \text{ MMBtu}} \times \frac{7.88 \text{ lbs fuel}}{\text{gal fuel}} \times \frac{64 \text{ lb/lb mole SO}_2}{32 \text{ lb/lb mole S}} \times \frac{0.005 \text{ lbs S}}{\text{lb fuel}} = \frac{0.563 \text{ lbs SO}_2}{\text{MMBtu}}$$

- (b) Pursuant to 326 IAC 7-1.1-2, the sulfur dioxide emissions from combustion of the distillate oil (No. 2) used in the aggregate dryer/mixer shall not exceed 0.5 pounds per MMBtu. This equates to a fuel oil sulfur content limit of 0.493 weight %. This limit does not apply to the combustion of natural gas. The distillate oil sulfur dioxide emissions are calculated as follows:

$$\frac{1 \text{ gal fuel}}{0.14 \text{ MMBtu}} \times \frac{7.09 \text{ lbs fuel}}{\text{gal fuel}} \times \frac{64 \text{ lb/lb mole SO}_2}{32 \text{ lb/lb mole S}} \times \frac{0.00493 \text{ lbs S}}{\text{lb fuel}} = \frac{0.496 \text{ lbs SO}_2}{\text{MMBtu}}$$

Pursuant to 326 IAC 7-1.1-1, the hot oil heater and the pre-heater for the asphalt dryer are not subject to the requirements of this rule because potential SO₂ emissions from these units are less than twenty-five (25) tons per year.

326 IAC 8-1-6 (Best Available Control Technology)

The aggregate dryer/mixer was constructed after January 1, 1980, and has potential VOC emissions of greater than twenty-five (25) tons per year. The potential to emit VOC from the aggregate dryer/mixer is 35.04 tons per year for the current maximum asphalt production capacity of 2,190,000 tons per year. In order to render the requirements of 326 IAC 8-1-6 not applicable to the dryer-mixer, the Permittee shall comply with the following:

- (1) The amount of hot-mix asphalt processed shall not exceed 1,550,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (6) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.

Compliance with these limits shall limit VOC emissions to less than 25 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 8-1-6 not applicable to the dryer-mixer.

Pursuant to 326 IAC 8-1-6(3)(A), the cold mix asphalt production is not subject to the requirements 326 IAC 8-1-6 since it is regulated under 326 IAC 8-5-2.

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

The asphalt plant facility used to produce cold-mix/cutback asphalt is subject to the requirements of 326 IAC 8-5-2 because construction commenced after January 1, 1980. Pursuant to 326 IAC 8-5-2, the Permittee shall not cause or allow the use of cutback asphalt or asphalt emulsion containing more than seven percent (7%) oil distillate by volume of emulsion for any paving application except:

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

Hot Oil Heater

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-1(d), the hot oil heater is subject to the requirements of 326 IAC 6-2-4 since it is a source of indirect heat constructed after September 21, 1983. Particulate emissions from the hot oil heater, which has a total source operating capacity less than 10 MMBtu/hr, shall not exceed 0.6 lb/MMBtu heat input.

Storage Tanks

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

The No. 2 distillate oil storage tank is not subject to the requirements of 326 IAC 8-4-3 since the capacity of the tank is less than thirty-nine thousand (39,000) gallons.

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

The requirements of 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels) do not apply to this source because this source is located in DeKalb County and this rule applies to sources located in Clark, Floyd, Lake, or Porter Counties.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 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 2-7-5. 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 requirements applicable to this source are as follows:

(1) The Permittee shall determine compliance with the fuel characteristics (i.e., sulfur content) by providing a vendor analysis of each fuel delivery accompanied by a vendor certification

(b) The testing requirements applicable to this proposed revision are as follows:

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing
Dryer/mixer	Baghouse	No later than five (5) years from the most recent valid compliance demonstration	PM/PM10/PM2.5	Once every five (5) years

These testing requirements are required to ensure compliance with 40 CFR 60, Subpart I and the limits that render 326 IAC 2-2 (PSD) not applicable.

The Permittee is not being required to perform testing for VOC emissions. In order to demonstrate that VOC emissions are less than 250 tons per year, the Permittee shall maintain records of the amount of asphalt produced and the amount, type, and VOC content of each liquid binder used and associated VOC emissions in the production of cold mix asphalt.

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

The dryer-mixer baghouse and the conveying, screening, and material transfer points have applicable compliance monitoring conditions as specified below:

Control	Parameter	Frequency	Range	Excursions and Exceedances
Conveyors, screening, material transfer points and dryer/mixer stack exhaust	Visible Emissions	Daily	Normal-Abnormal	Response Steps
Baghouse associated with the dryer/mixer, cold feed bins, scalping screens, weigh conveyors, and the mixing drum	Water Pressure Drop	Daily	2 to 8 inches of water	Response steps
	Visible Emissions		Normal-Abnormal	

These monitoring conditions are necessary because the baghouse used in conjunction with the new dryer/mixer must operate properly to ensure continued compliance with 40 CFR 60, Subpart I, 326 and 326 IAC 6.5 (Particulate Matter Limitations Except Lake County), 40 CFR Part 64 (CAM), and the limits that render 326 IAC 2-2 (PSD) not applicable.

Recommendation

The staff recommends to the Commissioner that the Part 70 Operating Permit 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 May 14, 2014.

Conclusion

The operation of this stationary hot-mix asphalt plant shall be subject to the conditions of the attached Part 70 Operating Permit Renewal No. T033-34535-00055.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Brian Wright 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) 234-6544 or toll free at 1-800-451-6027 extension 4-6544.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

**Appendix A.1: Unlimited Emissions Calculations
Entire Source**

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

Asphalt Plant Maximum Capacity

Maximum Hourly Asphalt Production =	250	ton/hr									
Maximum Annual Asphalt Production =	2,190,000	ton/yr									
Maximum Annual Blast Furnace Slag Usage =	0	ton/yr	1.5	% sulfur							
Maximum Annual Steel Slag Usage =	109,500	ton/yr	0.66	% sulfur							
Maximum Dryer Fuel Input Rate =	75.0	MMBtu/hr									
Natural Gas Usage =	657	MMCF/yr									
No. 2 Fuel Oil Usage =	4,692,857	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							
Butane Usage =	0	gal/yr, and	0.22	gr/100 ft3 sulfur							
Used/Waste Oil Usage =	4,692,857	gal/yr, and	0.50	% sulfur	0.50	% ash	0.200	% chlorine,	0.100	% 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

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO ₂ e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	75.09	59.83	59.83	172.46	46.93	2.35	27.59	53,033.30	45.24	30.97 (hydrogen chloride)
Dryer/Mixer (Process)	30,660.00	7,117.50	1,642.50	63.51	60.23	35.04	142.35	36,463.50	11.67	3.39 (formaldehyde)
Dryer/Mixer Slag Processing (worst case)	0	0	0	0.08	0	0	0	0.00	0	0
Hot Oil Heater Fuel Combustion/Process (worst case)	0.01	0.05	0.05	0.00	0.62	0.03	0.52	1,235.16	0.012	0.011 (hexane)
Worst Case Emissions*	30,660.01	7,117.55	1,642.55	172.54	60.84	35.07	142.87	54,268.46	45.26	30.97 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	1.21	1.21	1.21	0	0	18.76	3.15	0	0.31	0.10 (formaldehyde)
Material Storage Piles	2.38	0.83	0.83	0	0	0	0	0	0	0
Material Processing and Handling	7.07	3.35	0.51	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	34.74	12.69	12.69	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	77.76	19.82	1.98	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	26,318.33	0	0	6,864.79	2,368.65 (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	0
Total Fugitive Emissions	123.18	37.90	17.23	0.00	0.00	26,337.08	3.15	0.00	6,865.11	2,368.65 (xylenes)
Totals Unlimited/Uncontrolled PTE	30,783.19	7,155.45	1,659.77	172.54	60.84	26,372.16	146.02	54,268.46	6,910.36	2,368.65 (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 Emissions From Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion and Hot Oil Heating System + Diesel-Fired Generator < 600 HP + Diesel-Fired Generator > 600 HP

Fuel component percentages provided by the source.

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

Maximum Capacity

Maximum Fuel Input Rate =	75	MMBtu/hr
Natural Gas Usage =	657	MMCF/yr
No. 2 Fuel Oil Usage =	4,692,857	gal/yr, and
No. 4 Fuel Oil Usage =	0	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and
Propane Usage =	0	gal/yr, and
Butane Usage =	0	gal/yr, and
Used/Waste Oil Usage =	4,692,857	gal/yr, and
	0.50	% sulfur
	0.50	% sulfur
	0.50	% sulfur
	0.20	gr/100 ft3 sulfur
	0.22	gr/100 ft3 sulfur
	0.50	% sulfur
	0.50	% ash
	0.200	% chlorine
	0.100	% lead

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	7.0	7.815	0.5	0.6	32.0	0.62	4.69	0.00	0.00	0.000	0.000	75.09	75.09
PM10/PM2.5	7.6	3.3	8.3	9.315	0.5	0.6	25.5	2.50	7.74	0.00	0.00	0.000	0.000	59.83	59.83
SO2	0.6	71.0	75.0	78.5	0.020	0.020	73.5	0.20	166.60	0.00	0.00	0.000	0.000	172.46	172.46
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	32.85	46.93	0.00	0.00	0.00	0.00	44.58	46.93
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	1.81	0.47	0.00	0.00	0.00	0.00	2.35	2.35
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	27.594	11.73	0.00	0.00	0.00	0.00	11.73	27.59
Hazardous Air Pollutant															
HCl							13.2							30.97	30.97
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	6.6E-05	1.31E-03	0.00E+00	0.00E+00			2.58E-01	2.6E-01
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	3.9E-06	9.86E-04	0.00E+00	0.00E+00			negl	9.9E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	3.6E-04	9.86E-04	0.00E+00	0.00E+00			2.18E-02	2.2E-02
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	4.6E-04	9.86E-04	0.00E+00	0.00E+00			4.69E-02	4.7E-02
Cobalt	8.4E-05	6.02E-03	6.02E-03	6.02E-03			2.1E-04	2.8E-05	0.00E+00	0.00E+00				4.93E-04	4.9E-04
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			5.5	1.6E-04	2.9E-03	0.00E+00	0.00E+00			1.3E+01	12.91
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.2E-04	1.97E-03	0.00E+00	0.00E+00			1.60E-01	0.16
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				8.5E-05	9.86E-04	0.00E+00	0.00E+00				9.9E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	6.9E-04	9.86E-04	0.00E+00	0.00E+00			2.58E-02	0.026
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	7.9E-06	4.93E-03	0.00E+00	0.00E+00			negl	4.9E-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				6.9E-04		0.00E+00	0.00E+00				6.9E-04
Bis(2-ethylhexyl)phthalate								2.2E-03						5.16E-03	5.2E-03
Dichlorobenzene	1.2E-03							8.0E-07	3.9E-04					1.88E-06	3.9E-04
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				2.5E-02	1.43E-01	0.00E+00	0.00E+00				0.143
Hexane	1.8E+00							0.59							0.591
Phenol							2.4E-03							5.63E-03	5.6E-03
Toluene	3.4E-03		6.20E-03	6.20E-03				1.1E-03		0.00E+00	0.00E+00				1.1E-03
Total PAH Haps	negl		1.13E-03	1.13E-03				3.9E-02	negl	0.00E+00	0.00E+00			9.17E-02	9.2E-02
Polycyclic Organic Matter		3.30E-03							7.74E-03						7.7E-03
Xylene			1.09E-04	1.09E-04						0.00E+00	0.00E+00				0.0E+00
Total HAPs								0.62	0.17	0.00	0.00	0	0	44.49	45.24

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0905 MMBtu]
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0974 MMBtu]
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
 Sources of AP-42 Emission Factors for fuel combustion:

- Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
- No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
- Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
- Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

* 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)
- 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 Calculation:
Greenhouse Gas (CO₂e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

Maximum Capacity

Maximum Fuel Input Rate =	75	MMBtu/hr									
Natural Gas Usage =	657	MMCF/yr									
No. 2 Fuel Oil Usage =	4,692,857	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						
Butane Usage =	0	gal/yr, and		0.22	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	4,692,857	gal/yr, and		0.50	% sulfur	0.50	% ash	0.200	% chlorine,	0.100	% lead

Unlimited/Uncontrolled Emissions:

CO ₂ e Fraction	Emission Factor (units)							Global Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO ₂	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
CH ₄	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	25
N ₂ O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N ₂ O	298

CO ₂ e Fraction	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)
CO ₂	39,473.17	52,797.95	0.00	0.00	0.00	0.00	51,678.10
CH ₄	0.82	2.14	0.00	0.00	0.00	0.00	2.10
N ₂ O	0.72	0.61	0.00	0.00	0.00	0.00	0.42
Total	39,474.71	52,800.70	0.00	0.00	0.00	0.00	51,680.62
CO ₂ e Equivalent Emissions (tons/yr)	39,709.01	53,033.30	0.00	0.00	0.00	0.00	51,856.34

CO₂e for Worst Case Fuel* (tons/yr)
53,033.30

Methodology

Fuel Usage from TSD Appendix A.1, page 1 of 14.
 Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]
 Global 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, No. 4, and 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 5/10), Table 1.3-8
 Propane: Emission Factor for CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CO₂ and N₂O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
 Butane: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
 Waste Oil: Emission Factors for CO₂, CH₄, and N₂O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Abbreviations

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

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 scd/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 (25) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (298).

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

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

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	28	28	28	30,660.0	30,660.0	30,660.0	30,660.0
PM10*	6.5	6.5	6.5	7,117.5	7,117.5	7,117.5	7,117.5
PM2.5*	1.5	1.5	1.5	1,642.5	1,642.5	1,642.5	1,642.5
SO2**	0.0034	0.011	0.058	3.7	12.0	63.5	63.5
NOx**	0.026	0.055	0.055	28.5	60.2	60.2	60.2
VOC**	0.032	0.032	0.032	35.0	35.0	35.0	35.0
CO***	0.13	0.13	0.13	142.4	142.4	142.4	142.4
Hazardous Air Pollutant							
HCl			2.10E-04			2.30E-01	0.23
Antimony	1.80E-07	1.80E-07	1.80E-07	1.97E-04	1.97E-04	1.97E-04	1.97E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	6.13E-04	6.13E-04	6.13E-04	6.13E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	4.49E-04	4.49E-04	4.49E-04	4.49E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	6.02E-03	6.02E-03	6.02E-03	6.02E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	2.85E-05	2.85E-05	2.85E-05	2.85E-05
Lead	6.20E-07	1.50E-05	1.50E-05	6.79E-04	1.64E-02	1.64E-02	1.64E-02
Manganese	7.70E-06	7.70E-06	7.70E-06	8.43E-03	8.43E-03	8.43E-03	8.43E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	2.63E-04	2.85E-03	2.85E-03	2.85E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	0.07	0.07	0.07	0.07
Selenium	3.50E-07	3.50E-07	3.50E-07	3.83E-04	3.83E-04	3.83E-04	3.83E-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			1.42	1.42
Acrolein			2.60E-05			2.85E-02	2.85E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.43	0.43	0.43	0.43
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.26	0.26	0.26	0.26
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	3.39	3.39	3.39	3.39
Hexane	9.20E-04	9.20E-04	9.20E-04	1.01	1.01	1.01	1.01
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.05	0.05	0.05	0.05
MEK			2.00E-05			0.02	0.02
Propionaldehyde			1.30E-04			0.14	0.14
Quinone			1.60E-04			0.18	0.18
Toluene	1.50E-04	2.90E-03	2.90E-03	0.16	3.18	3.18	3.18
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.21	0.96	0.96	0.96
Xylene	2.00E-04	2.00E-04	2.00E-04	0.22	0.22	0.22	0.22

Total HAPs 11.67

Worst Single HAP 3.39 (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

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

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

Maximum Hourly Asphalt Production = 250 ton/hr
 Maximum Annual Asphalt Production = 2,190,000 ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO2e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO2	33	33	33	1	36,135.00	36,135.00	36,135.00	36,463.50
CH4	0.0120	0.0120	0.0120	25	13.14	13.14	13.14	
N2O				298	0	0	0	
Total					36,148.14	36,148.14	36,148.14	
CO2e Equivalent Emissions (tons/yr)					36,463.50	36,463.50	36,463.50	

Methodology

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

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

There are no emission factors for N2O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N2O emission anticipated from this process.

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

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (25) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (298).

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: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

Maximum Annual Blast Furnace Slag Usage = ton/yr % sulfur
 Maximum Annual Steel Slag Usage = ton/yr % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Unlimited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	0.74	0.0
Steel Slag**	0.0014	0.1

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 Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

Maximum Hot Oil Heater Fuel Input Rate = 1.41 MMBtu/hr
 Natural Gas Usage = 12 MMCF/yr
 No. 2 Fuel Oil Usage = 0 gal/yr, and 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0.012	0.000	0.01
PM10/PM2.5	7.6	3.3	0.047	0.000	0.05
SO2	0.6	71.0	0.004	0.000	0.00
NOx	100	20.0	0.618	0.000	0.62
VOC	5.5	0.20	0.034	0.000	0.03
CO	84	5.0	0.519	0.000	0.52
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.2E-06	0.00E+00	1.2E-06
Beryllium	1.2E-05	4.2E-04	7.4E-08	0.00E+00	7.4E-08
Cadmium	1.1E-03	4.2E-04	6.8E-06	0.00E+00	6.8E-06
Chromium	1.4E-03	4.2E-04	8.6E-06	0.00E+00	8.6E-06
Cobalt	8.4E-05		5.2E-07		5.2E-07
Lead	5.0E-04	1.3E-03	3.1E-06	0.00E+00	3.1E-06
Manganese	3.8E-04	8.4E-04	2.3E-06	0.00E+00	2.3E-06
Mercury	2.6E-04	4.2E-04	1.6E-06	0.00E+00	1.6E-06
Nickel	2.1E-03	4.2E-04	1.3E-05	0.00E+00	1.3E-05
Selenium	2.4E-05	2.1E-03	1.5E-07	0.00E+00	1.5E-07
Benzene	2.1E-03		1.3E-05		1.3E-05
Dichlorobenzene	1.2E-03		7.4E-06		7.4E-06
Ethylbenzene					0.0E+00
Formaldehyde	7.5E-02	6.10E-02	4.6E-04	0.00E+00	4.6E-04
Hexane	1.8E+00		0.01		1.1E-02
Phenol					0.0E+00
Toluene	3.4E-03		2.1E-05		2.1E-05
Total PAH Haps	negl		negl		0.0E+00
Polycyclic Organic Matter		3.30E-03		0.00E+00	0.0E+00

Total HAPs = 1.2E-02 0.0E+00 0.012
Worst Single HAP = 1.1E-02 0.0E+00 1.1E-02
 (Hexane) (Formaldehyde) (Hexane)

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)] * [ton/2000 lbs]
 Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Abbreviations

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

**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: 1633 CR 72, Hometown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

Maximum Hot Oil Heater Fuel Input Rate = 1.41 MMBtu/hr
 Natural Gas Usage = 12.35 MMCF/yr
 No. 2 Fuel Oil Usage = 0.00 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO2	120,161.84	22,501.41	1	742.10	0.00
CH4	2.49	0.91	25	0.02	0.00
N2O	2.2	0.26	298	0.01	0.00
				742.12	0.00

Worse Case CO2e Emissions (tons/yr)
746.53

CO2e Equivalent Emissions (tons/yr)	746.53	0.00
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Methodology

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

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

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

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

No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 5/10), 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] * [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 (25) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (298).

Abbreviations

CO2 = Carbon Dioxide
 CH4 = Methane

N2O = Nitrogen Dioxide
 PTE = Potential to Emit

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Hunteartown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

Maximum Fuel Input Rate To Hot Oil Heater = 1.41 MMBtu/hr
 Natural Gas Usage = 12.35 MMCF/yr, and
 No. 2 Fuel Oil Usage = 0.00 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	
VOC	2.60E-08	2.65E-05	1.61E-04	0.000	0.000
CO	8.90E-06	0.0012	0.055	0.000	0.055
Greenhouse Gas as CO2e*					
CO2	0.20	28.00	1235.16	0.00	1235.16
Hazardous Air Pollutant					
Formaldehyde	2.60E-08	3.50E-06	1.61E-04	0.00E+00	1.61E-04
Acenaphthene		5.30E-07		0.00E+00	0.00E+00
Acenaphthylene		2.00E-07		0.00E+00	0.00E+00
Anthracene		1.80E-07		0.00E+00	0.00E+00
Benzo(b)fluoranthene		1.00E-07		0.00E+00	0.00E+00
Fluoranthene		4.40E-08		0.00E+00	0.00E+00
Fluorene		3.20E-08		0.00E+00	0.00E+00
Naphthalene		1.70E-05		0.00E+00	0.00E+00
Phenanthrene		4.90E-06		0.00E+00	0.00E+00
Pyrene		3.20E-08		0.00E+00	0.00E+00

Total HAPs 1.61E-04
Worst Single HAP 1.61E-04 (Naphthalene)

Methodology

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

*Note: There are no emission factors for CH4 and N2O available in either 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no CH4 and N2O emission anticipated from this process.

Abbreviations

CO = Carbon Monoxide VOC = Volatile Organic Compound CO2 = Carbon Dioxide

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

**Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright**

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 =	2,190,000 tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.57	0.64	NA	1.21
Organic PM	3.4E-04	2.5E-04	NA	0.37	0.278	NA	0.65
TOC	0.004	0.012	0.001	4.55	13.34	1.205	19.1
CO	0.001	0.001	3.5E-04	1.48	1.292	0.385	3.15

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

PM/HAPs	0.027	0.031	0	0.058
VOC/HAPs	0.067	0.170	0.018	0.255
non-VOC/HAPs	3.5E-04	3.6E-05	9.3E-05	4.8E-04
non-VOC/non-HAPs	0.33	0.19	0.09	0.61

Total VOCs	4.28	13.34	1.1	18.8
Total HAPs	0.09	0.20	0.018	0.31
		Worst Single HAP		0.097
				(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: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	9.7E-04	1.3E-03	NA	2.3E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	1.0E-04	3.9E-05	NA	1.4E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	2.6E-04	3.6E-04	NA	6.2E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	7.1E-05	1.6E-04	NA	2.3E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	2.8E-05	0	NA	2.8E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	8.2E-06	0	NA	8.2E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	7.1E-06	0	NA	7.1E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	8.6E-06	0	NA	8.6E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	2.9E-05	2.6E-05	NA	5.6E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	3.8E-04	5.8E-04	NA	9.7E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	1.4E-06	0	NA	1.4E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.9E-04		NA	1.9E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	2.9E-03	2.8E-03	NA	5.7E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.8E-06	0	NA	1.8E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	8.9E-03	1.5E-02	NA	0.024
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	4.7E-03	5.1E-03	NA	9.7E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	8.2E-05	8.3E-05	NA	1.7E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	3.0E-03	5.0E-03	NA	8.0E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	5.6E-04	1.2E-03	NA	1.8E-03
Total PAH HAPs							0.022	0.031	NA	0.053
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	4.4E-03	0	0	4.4E-03

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

Methodology

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

Abbreviations

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

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	4.28	13.34	1.13	18.76
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	3.0E-01	3.5E-02	7.8E-02	0.409
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	2.1E-03	7.3E-03	5.5E-04	0.010
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	3.2E-02	1.5E-01	8.6E-03	0.188
Total non-VOC/non-HAPS					7.30%	1.40%	0.332	0.187	0.088	0.61
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	2.4E-03	4.3E-03	6.3E-04	7.3E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	4.4E-04	6.5E-04	1.2E-04	1.2E-03
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	2.2E-03	5.2E-03	5.9E-04	8.0E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	5.9E-04	2.1E-03	1.6E-04	2.9E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	9.6E-06	5.3E-04	2.5E-06	5.5E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	6.8E-04	3.1E-03	1.8E-04	3.9E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	5.0E-03	0	1.3E-03	6.3E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	1.3E-02	5.1E-03	3.4E-03	0.021
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	4.0E-03	9.2E-02	1.1E-03	0.097
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	6.8E-03	1.3E-02	1.8E-03	0.022
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	8.2E-05	4.1E-05	2.2E-05	1.5E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	3.6E-05	0	3.6E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	3.3E-04	7.2E-04	8.8E-05	1.1E-03
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	3.5E-04	0	9.3E-05	4.4E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	9.6E-03	8.3E-03	2.5E-03	0.020
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	5.9E-05	0	1.6E-05	7.5E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.9E-02	2.7E-02	4.9E-03	0.050
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	3.6E-03	7.6E-03	9.6E-04	1.2E-02
Total volatile organic HAPs					1.50%	1.30%	0.068	0.173	0.018	0.260

Methodology

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

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

Abbreviations

TOC = Total Organic Compounds

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

MTBE = Methyl tert butyl ether

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.80	0.439	0.154
Limestone	1.6	1.85	1.30	0.439	0.154
RAP	0.5	0.58	1.40	0.148	0.052
Gravel	1.6	1.85	1.20	0.406	0.142
Shingles	0.5	0.58	1.40	0.148	0.052
Slag	3.8	4.40	1.00	0.803	0.281
Totals				2.38	0.83

Methodology

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

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

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

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

PM2.5 = PM10

Abbreviations

RAP - recycled asphalt pavement

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

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

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

where: E_f = Emission factor (lb/ton)

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

Maximum Annual Asphalt Production =	2,190,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	2,080,500	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	2.36	1.12	0.17
Front-end loader dumping of materials into feeder bins	2.36	1.12	0.17
Conveyor dropping material into dryer/mixer or batch tower	2.36	1.12	0.17
Total (tons/yr)	7.07	3.35	0.51

Methodology

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

Material Screening and Conveying (AP-42 Section 11.19.2)

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	5.62	2.50
Screening	0.025	0.0087	26.01	9.05
Conveying	0.003	0.0011	3.12	1.14
Unlimited Potential to Emit (tons/yr) =			34.74	12.69

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 (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).
**Assumes PM10 = PM2.5

Abbreviations

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

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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	2,190,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	2,080,500	tons/yr
Maximum Asphalt Cement/Binder Throughput	109,500	tons/yr
Maximum No. 2 Fuel Oil Usage	4,692,857	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 distance (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	9.3E+04	3.7E+06	300	0.057	5277.2
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	9.3E+04	1.6E+06	300	0.057	5277.2
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	3.0E+03	1.5E+05	300	0.057	172.8
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	3.0E+03	3.7E+04	300	0.057	172.8
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	5.0E+02	2.2E+04	300	0.057	28.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	5.0E+02	5.9E+03	300	0.057	28.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	5.0E+05	9.5E+06	300	0.057	28145.3
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	5.0E+05	7.4E+06	300	0.057	28145.3
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	9.1E+04	3.7E+06	300	0.057	5184.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	9.1E+04	1.6E+06	300	0.057	5184.7
Total					1.4E+06	2.8E+07			7.8E+04

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

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

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

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	16.08	4.10	0.41	10.57	2.70	0.27	5.29	1.35	0.13
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	16.08	4.10	0.41	10.57	2.70	0.27	5.29	1.35	0.13
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.527	0.134	0.01	0.346	0.088	0.01	0.173	0.044	0.00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.527	0.134	0.01	0.346	0.088	0.01	0.173	0.044	0.00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.086	0.022	0.00	0.056	0.014	0.00	0.028	0.007	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.086	0.022	0.00	0.056	0.014	0.00	0.028	0.007	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	85.77	21.86	2.19	56.40	14.37	1.44	28.20	7.19	0.72
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	85.77	21.86	2.19	56.40	14.37	1.44	28.20	7.19	0.72
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	15.80	4.03	0.40	10.39	2.65	0.26	5.19	1.32	0.13
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	15.80	4.03	0.40	10.39	2.65	0.26	5.19	1.32	0.13
Totals		236.53	60.28	6.03	155.53	39.64	3.96	77.76	19.82	1.98

Methodology

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

Abbreviations

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

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Hometown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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	2,190,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	2,080,500	tons/yr
Maximum Asphalt Cement/Binder Throughput	109,500	tons/yr
Maximum No. 2 Fuel Oil Usage	4,692,857	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	9.3E+04	3.7E+06	300	0.057	5277.2
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	9.3E+04	1.6E+06	300	0.057	5277.2
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	3.0E+03	1.5E+05	300	0.057	172.8
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	3.0E+03	3.7E+04	300	0.057	172.8
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	5.0E+02	2.2E+04	300	0.057	28.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	5.0E+02	5.9E+03	300	0.057	28.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	5.0E+05	9.5E+06	300	0.057	28145.3
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	5.0E+05	7.4E+06	300	0.057	28145.3
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	9.1E+04	3.7E+06	300	0.057	5184.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	9.1E+04	1.6E+06	300	0.057	5184.7
Total					1.4E+06	2.8E+07			7.8E+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 ³ = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, 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)	0.39	0.08	0.02	0.36	0.07	0.02	0.18	0.04	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.39	0.08	0.02	0.36	0.07	0.02	0.18	0.04	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.013	0.003	6.3E-04	0.012	0.002	5.8E-04	0.006	1.2E-03	2.9E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.013	0.003	6.3E-04	0.012	0.002	5.8E-04	0.006	1.2E-03	2.9E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	2.1E-03	4.2E-04	1.0E-04	1.9E-03	3.8E-04	9.4E-05	9.6E-04	1.9E-04	4.7E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	2.1E-03	4.2E-04	1.0E-04	1.9E-03	3.8E-04	9.4E-05	9.6E-04	1.9E-04	4.7E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	2.09	0.42	0.10	1.91	0.38	0.09	0.96	0.19	0.05
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	2.09	0.42	0.10	1.91	0.38	0.09	0.96	0.19	0.05
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.39	0.08	0.02	0.35	0.07	0.02	0.18	0.04	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.39	0.08	0.02	0.35	0.07	0.02	0.18	0.04	0.01
Totals		5.77	1.15	0.28	5.28	1.06	0.26	2.64	0.53	0.13

Methodology

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

Abbreviations

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

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Hometown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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 = 2,190,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Asphalt Cement/Binder Throughput = 109,500 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%	27,703.5	26,318.3
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	31,317.0	21,921.9
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	21,900.0	5,475.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	16,425.0	7,621.2
Other asphalt with solvent binder	25.9%	2.5%	28,360.5	709.0
Worst Case PTE of VOC =				26,318.3

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) =	6,864.79
PTE of Single HAP (tons/yr) =	2,368.65 Xylenes

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

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

Methodology

Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] * [Maximum Weight % of VOC Solvent in Binder]
 PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [Maximum VOC Solvent Usage (tons/yr)]
 PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
 PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]

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

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: 1633 CR 72, Hometown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

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

Volatile Organic Compounds

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

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	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.

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

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

Company Name: API Construction Corporation
 Source Address: 1633 CR 72, Hometown, Indiana 46748
 Permit Number: T033-34535-00055
 Reviewer: Brian Wright

Asphalt Plant Limitations - Drum Mix

Maximum Hourly Asphalt Production =	250	ton/hr									
Annual Asphalt Production Limitation =	1,550,000	ton/yr									
Blast Furnace Slag Usage Limitation =	0	ton/yr	1.50	% sulfur							
Steel Slag Usage Limitation =	1,550,000	ton/yr	0.66	% sulfur							
Maximum Dryer Fuel Input Rate =	75	MMBtu/hr									
Natural Gas Limitation =	657	MMCF/yr									
No. 2 Fuel Oil Limitation =	4,692,857	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							
Butane Limitation =	0	gal/yr, and	0.22	gr/100 ft3 sulfur							
Used/Waste Oil Limitation =	4,692,857	gal/yr, and	0.50	% sulfur	0.50	% ash	0.20	% chlorine,	0.100	% lead	
PM Dryer/Mixer Limitation =	0.208	lb/ton of asphalt production									
PM10 Dryer/Mixer Limitation =	0.286	lb/ton of asphalt production									
PM2.5 Dryer/Mixer Limitation =	0.305	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									
Steel Slag SO2 Dryer/Mixer Limitation =	0.0014	lb/ton of slag processed									
Cold Mix Asphalt VOC Limitation =	210.0	tons/yr									

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO ₂ e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	75.09	59.83	59.83	172.46	46.93	2.35	27.59	53,033.30	45.24	30.97 (hydrogen chloride)
Dryer/Mixer (Process)	161.09	221.88	236.52	44.95	42.63	24.80	100.75	25,808	8.26	2.40 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	1.09	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion/Process (worst case)	0.01	0.05	0.05	0.004	0.62	0.03	0.52	1,235.16	0.01	0.011 (hexane)
Worst Case Emissions*	161.10	221.92	236.56	173.55	47.55	24.83	101.27	54,268.46	45.26	30.97 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.86	0.86	0.86	0	0	13.28	2.23	0	0.22	0.07 (formaldehyde)
Material Storage Piles	2.38	0.83	0.83	0	0	0	0	0	0	0
Material Processing and Handling	5.01	2.37	0.36	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	24.59	8.98	8.98	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	55.06	14.03	1.40	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	210.00	0	0	54.78	18.90 (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	87.90	27.08	12.44	0	0	223.28	2.23	0.00	55.00	18.90 (xylenes)
Totals Limited/Controlled Emissions	249.00	249.00	249.00	173.55	47.55	248.11	103.50	54,268.46	100.25	30.97 (hydrogen chloride)

negl = negligible

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

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

Fuel component percentages provided by the source.

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

Company Name: API Construction Corporation
 Source Address: 1633 CR 72, Huntertown, Indiana 46748
 Permit Number: T033-34535-00055
 Reviewer: Brian Wright

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

Fuel Limitations

Maximum Fuel Input Rate =	75	MMBtu/hr																	
Natural Gas Limitation =	657	MMCF/yr																	
No. 2 Fuel Oil Limitation =	4,692,857	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														
Butane Limitation =	0	gal/yr, and		0.22	gr/100 ft3 sulfur														
Used/Waste Oil Limitation =	4,692,857	gal/yr, and		0.50	% sulfur	0.50	% ash	0.200	% chlorine,	0.100	% lead								

Limited Emissions

Criteria Pollutant	Emission Factor (units)							Limited Potential to Emit (tons/yr)							Worse Case Fuel (tons/yr)
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	
PM	1.9	2.0	7.0	7.815	0.5	0.6	32.0	0.62	4.69	0.00	0.00	0.000	0.000	75.09	75.09
PM10/PM2.5	7.6	3.3	8.3	9.315	0.5	0.6	25.5	2.50	7.74	0.00	0.00	0.000	0.000	59.83	59.83
SO2	0.6	71.0	75.0	78.5	0.02	0.02	73.5	0.20	166.60	0.00	0.00	0.000	0.000	172.46	172.46
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	32.85	46.93	0.00	0.00	0.00	0.00	44.58	46.93
VOC	5.5	0.20	0.20	0.28	1.0	1.10	1.0	1.81	0.47	0.00	0.00	0.00	0.00	2.35	2.35
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	27.59	11.73	0.00	0.00	0.00	0.00	11.73	27.59
Hazardous Air Pollutant															
HCl							13.2							30.97	30.97
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	6.6E-05	1.31E-03	0.00E+00	0.00E+00			2.58E-01	2.6E-01
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	3.9E-06	9.86E-04	0.00E+00	0.00E+00			negl	9.9E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	3.6E-04	9.86E-04	0.00E+00	0.00E+00			2.18E-02	2.2E-02
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	4.6E-04	9.86E-04	0.00E+00	0.00E+00			4.69E-02	4.7E-02
Cobalt	8.4E-05	6.02E-03	6.02E-03	6.02E-03			2.1E-04	2.8E-05	6.02E-03	0.00E+00	0.00E+00			4.93E-04	4.9E-04
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			5.5	1.6E-04	2.96E-03	0.00E+00	0.00E+00			1.3E+01	12.91
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.2E-04	1.97E-03	0.00E+00	0.00E+00			1.60E-01	0.16
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				8.5E-05	9.86E-04	0.00E+00	0.00E+00				9.9E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	6.9E-04	9.86E-04	0.00E+00	0.00E+00			2.58E-02	0.026
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04				7.9E-06	4.93E-03	0.00E+00	0.00E+00			negl	4.9E-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				6.9E-04		0.00E+00	0.00E+00				6.9E-04
Bis(2-ethylhexyl)phthalate							2.2E-03							5.16E-03	5.2E-03
Dichlorobenzene	1.2E-03						8.0E-07	3.9E-04						1.88E-06	3.9E-04
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				2.5E-02	1.43E-01	0.00E+00	0.00E+00				0.143
Hexane	1.8E+00							0.59							0.591
Phenol							2.4E-03							5.63E-03	5.6E-03
Toluene	3.4E-03		6.20E-03	6.20E-03				1.1E-03		0.00E+00	0.00E+00				1.1E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0.00E+00	0.00E+00			9.17E-02	9.2E-02
Polycyclic Organic Matter		3.30E-03							7.74E-03						7.7E-03
Xylene			1.09E-04	1.09E-04						0.00E+00	0.00E+00				0.0E+00
Total HAPs								0.62	0.17	0.00	0.00	0	0	44.49	45.24

Methodology

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
 Sources of AP-42 Emission Factors for fuel combustion:

- Natural Gas: AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
- No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
- Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
- Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

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

**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: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

Fuel Limitations

Maximum Fuel Input Rate =	75	MMBtu/hr								
Natural Gas Limitation =	657	MMCF/yr								
No. 2 Fuel Oil Limitation =	4,692.857	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 ft ³ sulfur						
Butane Limitation =	0	gal/yr, and	0.22	gr/100 ft ³ sulfur						
Used/Waste Oil Limitation =	4,692.857	gal/yr, and	0.50	% sulfur	0.50	% ash	0.200	% chlorine,	0.100	% lead

Limited Emissions

CO ₂ e Fraction	Emission Factor (units)							Global Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO ₂	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
CH ₄	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	25
N ₂ O	2.20	0.26	0.19	0.53	0.90	0.90	0.18	Nitrous oxide	N ₂ O	298

CO ₂ e Fraction	Limited Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO ₂	39,473.17	52,797.95	0.00	0.00	0.00	0.00	51,678.10
CH ₄	0.82	2.14	0.00	0.00	0.00	0.00	2.10
N ₂ O	0.72	0.61	0.00	0.00	0.00	0.00	0.42
Total	39,474.71	52,800.70	0.00	0.00	0.00	0.00	51,680.62
CO ₂ e Equivalent Emissions (tons/yr)	39,709.01	53,033.30	0.00	0.00	0.00	0.00	51,856.34

CO₂e for Worst Case Fuel* (tons/yr)
53,033.30

Methodology

Fuel Limitations from TSD Appendix A.2, page 1 of 15.

Global 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, No. 4, and Residual (No. 5 or No. 6) 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 1.3 Oil: (dated 5/10), Table 1.3-8

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

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

Emission Factor (EF) Conversions

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

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

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

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

Limited CO₂e Emissions (tons/yr) = CO₂ Potential Emission of "worst case" fuel (ton/yr) x CO₂ GWP (1) + CH₄ Potential Emission of "worst case" fuel (ton/yr) x CH₄ GWP (25) + N₂O Potential Emission of "worst case" fuel (ton/yr) x N₂O GWP (298).

Abbreviations

CH₄ = Methane

CO₂ = Carbon Dioxide

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

Maximum Hourly Asphalt Production =	250	ton/hr
Annual Asphalt Production Limitation =	1,550,000	ton/yr
PM Dryer/Mixer Limitation =	0.208	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.286	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.305	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	0.208	0.208	0.208	161.1	161.1	161.1	161.1
PM10*	0.286	0.286	0.286	221.9	221.9	221.9	221.9
PM2.5*	0.305	0.305	0.305	236.5	236.5	236.5	236.5
SO2**	0.003	0.011	0.058	2.6	8.5	45.0	45.0
NOx**	0.026	0.055	0.055	20.2	42.6	42.6	42.6
VOC**	0.032	0.032	0.032	24.8	24.8	24.8	24.8
CO***	0.130	0.130	0.130	100.8	100.8	100.8	100.8
Hazardous Air Pollutant							
HCl			2.10E-04			0.16	0.16
Antimony	1.80E-07	1.80E-07	1.80E-07	1.40E-04	1.40E-04	1.40E-04	1.40E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	4.34E-04	4.34E-04	4.34E-04	4.34E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	3.18E-04	3.18E-04	3.18E-04	3.18E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	4.26E-03	4.26E-03	4.26E-03	4.26E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	2.02E-05	2.02E-05	2.02E-05	2.02E-05
Lead	6.20E-07	1.50E-05	1.50E-05	4.81E-04	1.16E-02	1.16E-02	1.16E-02
Manganese	7.70E-06	7.70E-06	7.70E-06	5.97E-03	5.97E-03	5.97E-03	5.97E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	1.86E-04	2.02E-03	2.02E-03	2.02E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	4.88E-02	4.88E-02	4.88E-02	4.88E-02
Selenium	3.50E-07	3.50E-07	3.50E-07	2.71E-04	2.71E-04	2.71E-04	2.71E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	3.10E-02	3.10E-02	3.10E-02	3.10E-02
Acetaldehyde			1.30E-03			1.01	1.01
Acrolein			2.60E-05			2.02E-02	2.02E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.30	0.30	0.30	0.30
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.19	0.19	0.19	0.19
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	2.40	2.40	2.40	2.40
Hexane	9.20E-04	9.20E-04	9.20E-04	0.71	0.71	0.71	0.71
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.04	0.04	0.04	0.04
MEK			2.00E-05			0.02	0.02
Propionaldehyde			1.30E-04			0.10	0.10
Quinone			1.60E-04			0.12	0.12
Toluene	1.50E-04	2.90E-03	2.90E-03	0.12	2.25	2.25	2.25
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.15	0.68	0.68	0.68
Xylene	2.00E-04	2.00E-04	2.00E-04	0.16	0.16	0.16	0.16
Total HAPs							8.26
Worst Single HAP							2.4025 (formaldehyde)

Methodology

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

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

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

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

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

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

Abbreviations

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

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

Maximum Hourly Asphalt Production = 250 ton/hr
 Annual Asphalt Production Limitation = 1,550,000 ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Global Warming Potentials (GWP)	Limited Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO2e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO2	33	33	33	1	25,575.00	25,575.00	25,575.00	25,807.50
CH4	0.0120	0.0120	0.0120	25	9.30	9.30	9.30	
N2O				298	0	0	0	
Total					25,584.30	25,584.30	25,584.30	
CO2e Equivalent Emissions (tons/yr)					25,807.50	25,807.50	25,807.50	

Methodology

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

There are no emission factors for N2O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N2O emission anticipated for 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 (25) + N2O Potential Emission of "worst case" fuel (ton/yr) x N2O GWP (298).

Abbreviations

CO2 = Carbon Dioxide

CH4 = Methane

N2O = Nitrogen Dioxide

PTE = Potential to Emit

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

Limited Blast Furnace Slag Usage =

0

 ton/yr

1.50

 % sulfur
 Limited Annual Steel Slag Usage =

1,550,000

 ton/yr

0.66

 % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Limited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	#REF!	0.0
Steel Slag**	0.0014	1.09

Methodology

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

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

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

Abbreviations

SO2 = Sulfur Dioxide

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

Maximum Hot Oil Heater Fuel Input Rate = 1.41 MMBtu/hr
 Natural Gas Usage = 12 MMCF/yr
 No. 2 Fuel Oil Usage = 0 gal/yr, and 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
	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	0.012	0.000	0.01
PM10/PM2.5	7.6	3.3	0.047	0.000	0.05
SO2	0.6	71.0	0.004	0.000	0.00
NOx	100	20.0	0.618	0.000	0.62
VOC	5.5	0.20	0.034	0.000	0.03
CO	84	5.0	0.519	0.000	0.52
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.2E-06	0.00E+00	1.2E-06
Beryllium	1.2E-05	4.2E-04	7.4E-08	0.00E+00	7.4E-08
Cadmium	1.1E-03	4.2E-04	6.8E-06	0.00E+00	6.8E-06
Chromium	1.4E-03	4.2E-04	8.6E-06	0.00E+00	8.6E-06
Cobalt	8.4E-05		5.2E-07		5.2E-07
Lead	5.0E-04	1.3E-03	3.1E-06	0.00E+00	3.1E-06
Manganese	3.8E-04	8.4E-04	2.3E-06	0.00E+00	2.3E-06
Mercury	2.6E-04	4.2E-04	1.6E-06	0.00E+00	1.6E-06
Nickel	2.1E-03	4.2E-04	1.3E-05	0.00E+00	1.3E-05
Selenium	2.4E-05	2.1E-03	1.5E-07	0.00E+00	1.5E-07
Benzene	2.1E-03		1.3E-05		1.3E-05
Dichlorobenzene	1.2E-03		7.4E-06		7.4E-06
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	4.6E-04	0.00E+00	0.000
Hexane	1.8E+00		0.01		0.011
Phenol					0
Toluene	3.4E-03		2.1E-05		2.1E-05
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		0.00E+00	0.0E+00

Total HAPs = 1.2E-02 0.0E+00 0.012
Worst Single HAP = 1.1E-02 0.0E+00 1.1E-02
 (Hexane) (Formaldehyde) (Hexane)

Methodology

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

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]

Sources of AP-42 Emission Factors for fuel combustion:

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

No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

SO2 = Sulfur Dioxide

NOx = Nitrous Oxides

VOC - Volatile Organic Compounds

CO = Carbon Monoxide

HAP = Hazardous Air Pollutant

HCl = Hydrogen Chloride

PAH = Polyaromatic Hydrocarbon

Appendix A.2: Limited Emissions Summary

**Greenhouse Gas (CO₂e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

Maximum Hot Oil Heater Fuel Input Rate = 1.41 MMBtu/hr
 Natural Gas Usage = 12.35 MMCF/yr
 No. 2 Fuel Oil Usage = 0.00 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO ₂	120,161.84	22,501.41	1	742.10	0.00
CH ₄	2.49	0.91	25	0.015	0.00E+00
N ₂ O	2.20	0.26	298	0.014	0.00E+00
				742.12	0.00

Worse Case CO₂e Emissions (tons/yr)
746.53

CO ₂ e Equivalent Emissions (tons/yr)	746.53	0.00
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Methodology

Global 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 5/10), 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] * [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 (25) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (298).

Abbreviations

CH₄ = Methane

CO₂ = Carbon Dioxide

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

Maximum Fuel Input Rate To Hot Oil Heater = 1.41 MMBtu/hr
 Natural Gas Usage = 12.35 MMCF/yr, and
 No. 2 Fuel Oil Usage = 0.00 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	
VOC	2.60E-08	2.65E-05	1.61E-04	0.000	0.000
CO	8.90E-06	0.0012	0.055	0.000	0.055
Greenhouse Gas as CO2e*					
CO2	0.20	28.00	1235.16	0.00	1,235.16
Hazardous Air Pollutant					
Formaldehyde	2.60E-08	3.50E-06	1.61E-04	0.00E+00	1.61E-04
Acenaphthene		5.30E-07		0.00E+00	0.00E+00
Acenaphthylene		2.00E-07		0.00E+00	0.00E+00
Anthracene		1.80E-07		0.00E+00	0.00E+00
Benzo(b)fluoranthene		1.00E-07		0.00E+00	0.00E+00
Fluoranthene		4.40E-08		0.00E+00	0.00E+00
Fluorene		3.20E-08		0.00E+00	0.00E+00
Naphthalene		1.70E-05		0.00E+00	0.00E+00
Phenanthrene		4.90E-06		0.00E+00	0.00E+00
Pyrene		3.20E-08		0.00E+00	0.00E+00

Total HAPs 1.61E-04
Worst Single HAP 1.61E-04 (Naphthalene)

Methodology

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

*Note: There are no emission factors for CH4 and N2O available in either 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no CH4 and N2O emission anticipated from this process.

Abbreviations

CO = Carbon Monoxide VOC = Volatile Organic Compound CO2 = Carbon Dioxide

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Hometown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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 =	1,550,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.40	0.45	NA	0.86
Organic PM	3.4E-04	2.5E-04	NA	0.26	0.197	NA	0.46
TOC	0.004	0.012	0.001	3.22	9.44	0.853	13.5
CO	0.001	0.001	3.5E-04	1.05	0.914	0.273	2.23

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

PM/HAPs	0.019	0.022	0	0.041
VOC/HAPs	0.048	0.120	0.013	0.180
non-VOC/HAPs	2.5E-04	2.6E-05	6.6E-05	3.4E-04
non-VOC/non-HAPs	0.23	0.13	0.06	0.43

Total VOCs	3.03	9.44	0.8	13.3
Total HAPs	0.07	0.14	0.013	0.22
Worst Single HAP				0.069
				(formaldehyde)

Methodology

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Abbreviations

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate

Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

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

Company Name: API Construction Corporation
 Source Address: 1633 CR 72, Huntertown, Indiana 46748
 Permit Number: T033-34535-00055
 Reviewer: Brian Wright

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	6.9E-04	9.2E-04	NA	1.6E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	7.4E-05	2.8E-05	NA	1.0E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.8E-04	2.6E-04	NA	4.4E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	5.0E-05	1.1E-04	NA	1.6E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	2.0E-05	0	NA	2.0E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	5.8E-06	0	NA	5.8E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	5.0E-06	0	NA	5.0E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	6.1E-06	0	NA	6.1E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	2.1E-05	1.9E-05	NA	3.9E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	2.7E-04	4.1E-04	NA	6.9E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	9.8E-07	0	NA	9.8E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.3E-04	3.0E-04	NA	4.3E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	2.0E-03	2.0E-03	NA	4.0E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.2E-06	0	NA	1.2E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	6.3E-03	1.0E-02	NA	0.017
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	3.3E-03	3.6E-03	NA	6.9E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	5.8E-05	5.9E-05	NA	1.2E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	2.1E-03	3.5E-03	NA	5.7E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	4.0E-04	8.7E-04	NA	1.3E-03
Total PAH HAPs							0.016	0.022	NA	0.038
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	3.1E-03	0	0	3.1E-03

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

Methodology

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

Abbreviations

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

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	3.03	9.44	0.80	13.28
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	2.1E-01	2.5E-02	5.5E-02	0.289
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.5E-03	5.2E-03	3.9E-04	0.007
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	2.3E-02	1.0E-01	6.1E-03	0.133
Total non-VOC/non-HAPS					7.30%	1.40%	0.235	0.132	0.062	0.43
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.7E-03	3.0E-03	4.4E-04	5.1E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	3.1E-04	4.6E-04	8.2E-05	8.5E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.6E-03	3.7E-03	4.2E-04	5.7E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	4.2E-04	1.5E-03	1.1E-04	2.0E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	6.8E-06	3.8E-04	1.8E-06	3.9E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	4.8E-04	2.2E-03	1.3E-04	2.8E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	3.5E-03	0	9.4E-04	4.5E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	9.0E-03	3.6E-03	2.4E-03	0.015
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	2.8E-03	6.5E-02	7.5E-04	0.069
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	4.8E-03	9.4E-03	1.3E-03	0.016
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	5.8E-05	2.9E-05	1.5E-05	1.0E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.6E-05	0	2.6E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	2.4E-04	5.1E-04	6.2E-05	8.1E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.5E-04	0	6.6E-05	3.1E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	6.8E-03	5.9E-03	1.8E-03	0.014
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	4.2E-05	0	1.1E-05	5.3E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.3E-02	1.9E-02	3.5E-03	0.036
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.6E-03	5.4E-03	6.8E-04	8.6E-03
Total volatile organic HAPs					1.50%	1.30%	0.048	0.123	0.013	0.184

Methodology

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

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

Abbreviations

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

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Hunteertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

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

$E_f = 1.7 \cdot (s/1.5) \cdot (365-p)/235 \cdot (f/15)$ <p>where E_f = emission factor (lb/acre/day) s = silt content (wt %) p = <input type="text" value="125"/> days of rain greater than or equal to 0.01 inches f = <input type="text" value="15"/> % of wind greater than or equal to 12 mph</p>

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	0.80	0.439	0.154
Limestone	1.6	1.85	1.30	0.439	0.154
RAP	0.5	0.58	1.40	0.148	0.052
Gravel	1.6	1.85	1.20	0.406	0.142
Shingles	0.5	0.58	1.40	0.148	0.052
Slag	3.8	4.40	1.00	0.803	0.281
Totals				2.38	0.83

Methodology

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

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

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

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

PM2.5 = PM10

Abbreviations

RAP = recycled asphalt pavement

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

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

$$E_f = k \cdot (0.0032)^{0.74} \cdot (U/5)^{1.3} / (M/2)^{1.4}$$
where: E_f = Emission factor (lb/ton)
k (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) = 0.053 = particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006*)
M = 4.0 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
E_f (PM) = 2.27E-03 lb PM/ton of material handled
E_f (PM10) = 1.07E-03 lb PM10/ton of material handled
E_f (PM2.5) = 1.62E-04 lb PM2.5/ton of material handled

Annual Asphalt Production Limitation = 1,550,000 tons/yr
Percent Asphalt Cement/Binder (weight %) = 5.0%
Maximum Material Handling Throughput = 1,472,500 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	1.67	0.79	0.12
Front-end loader dumping of materials into feeder bins	1.67	0.79	0.12
Conveyor dropping material into dryer/mixer or batch tower	1.67	0.79	0.12
Total (tons/yr)	5.01	2.37	0.36

Methodology

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

Material Screening and Conveying (AP-42 Section 19.2.2)

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	3.98	1.77
Screening	0.025	0.0087	18.41	6.41
Conveying	0.003	0.0011	2.21	0.81
Limited Potential to Emit (tons/yr) =			24.59	8.98

Methodology

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

Abbreviations

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

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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	1,550,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	1,472,500	tons/yr
Maximum Asphalt Cement/Binder Throughput	77,500	tons/yr
No. 2 Fuel Oil Limitation	4,692,857	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	6.6E+04	2.6E+06	300	0.057	3735.0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	6.6E+04	1.1E+06	300	0.057	3735.0
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	2.2E+03	1.0E+05	300	0.057	122.3
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.2E+03	2.6E+04	300	0.057	122.3
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	5.0E+02	2.2E+04	300	0.057	28.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	5.0E+02	5.9E+03	300	0.057	28.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	3.5E+05	6.7E+06	300	0.057	19920.2
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	3.5E+05	5.3E+06	300	0.057	19920.2
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	6.5E+04	2.6E+06	300	0.057	3669.6
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	6.5E+04	1.1E+06	300	0.057	3669.6
Total					9.7E+05	2.0E+07			5.5E+04

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

Unmitigated Emission Factor, $E_f = k[(s/12)^a]^{(W/3)^b}$ (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, $E_{ext} = E * [(365 - P)/365]$
 Mitigated Emission Factor, $E_{ext} = E * [(365 - P)/365]$
 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, E_f	6.10	1.55	0.16	lb/mile
Mitigated Emission Factor, E_{ext}	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	11.38	2.90	0.29	7.48	1.91	0.19	3.74	0.95	0.10
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	11.38	2.90	0.29	7.48	1.91	0.19	3.74	0.95	0.10
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.373	0.095	0.01	0.245	0.062	6.2E-03	0.123	0.031	3.1E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.373	0.095	0.01	0.245	0.062	6.2E-03	0.123	0.031	3.1E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.086	0.022	2.2E-03	0.056	0.014	1.4E-03	0.028	0.007	7.2E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.086	0.022	2.2E-03	0.056	0.014	1.4E-03	0.028	0.007	7.2E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	60.71	15.47	1.55	39.92	10.17	1.02	19.96	5.09	0.51
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	60.71	15.47	1.55	39.92	10.17	1.02	19.96	5.09	0.51
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	11.18	2.85	0.29	7.35	1.87	0.19	3.68	0.94	0.09
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	11.18	2.85	0.29	7.35	1.87	0.19	3.68	0.94	0.09
Totals		167.47	42.68	4.27	110.12	28.06	2.81	55.06	14.03	1.40

Methodology

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

Abbreviations

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

Appendix A.2: Limited Emissions Summary
Paved Roads

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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	=	1,550,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	=	5.0%	
Maximum Material Handling Throughput	=	1,472,500	tons/yr
Maximum Asphalt Cement/Binder Throughput	=	77,500	tons/yr
No. 2 Fuel Oil Limitation	=	4,692,857	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	6.6E+04	2.6E+06	300	0.057	3735.0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	6.6E+04	1.1E+06	300	0.057	3735.0
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	2.2E+03	1.0E+05	300	0.057	122.3
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.2E+03	2.6E+04	300	0.057	122.3
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	5.0E+02	2.2E+04	300	0.057	28.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	5.0E+02	5.9E+03	300	0.057	28.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	3.5E+05	6.7E+06	300	0.057	19920.2
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	3.5E+05	5.3E+06	300	0.057	19920.2
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	6.5E+04	2.6E+06	300	0.057	3669.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	6.5E+04	1.1E+06	300	0.057	3669.5
Total					9.7E+05	2.0E+07			5.5E+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 = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, 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)	0.28	0.06	0.01	0.25	0.05	0.01	0.13	0.03	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.28	0.06	0.01	0.25	0.05	0.01	0.13	0.03	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.009	0.002	4.5E-04	0.008	0.002	4.1E-04	0.004	8.3E-04	2.0E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.009	0.002	4.5E-04	0.008	0.002	4.1E-04	0.004	8.3E-04	2.0E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	2.1E-03	4.2E-04	1.0E-04	1.9E-03	3.8E-04	9.4E-05	9.6E-04	1.9E-04	4.7E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	2.1E-03	4.2E-04	1.0E-04	1.9E-03	3.8E-04	9.4E-05	9.6E-04	1.9E-04	4.7E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	1.48	0.30	0.07	1.35	0.27	0.07	0.68	0.14	0.03
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	1.48	0.30	0.07	1.35	0.27	0.07	0.68	0.14	0.03
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.27	0.05	0.01	0.25	0.05	0.01	0.12	0.02	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.27	0.05	0.01	0.25	0.05	0.01	0.12	0.02	0.01
Totals		4.09	0.82	0.20	3.74	0.75	0.18	1.87	0.37	0.09

Methodology

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

Abbreviations

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

**Appendix A.2: Limited Emissions Summary
Cold Mix Asphalt Production and Stockpiles**

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

Limited VOC Emissions from the Sum of the Liquid Binders = 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%	221.1	210.0	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	300.0	210.0	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	840.0	210.0	4.000
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	452.6	210.0	2.155
Other asphalt with solvent binder	25.9%	2.5%	8400.0	210.0	40.0
Worst Case Limited PTE of VOC =				210.0	

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %) *	26.08%
Worst Case Single HAP Content of VOC solvent (weight %) *	9.0% Xylenes
Limited PTE of Total HAPs (tons/yr) =	54.78
Limited PTE of Single HAP (tons/yr) =	18.90 Xylenes

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

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

Methodology

Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [VOC Solvent Usage Limitation (tons/yr)]
 Limited PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
 Limited PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]

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

Abbreviations

VOC = Volatile Organic Compounds
 PTE = Potential to Emit

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

Company Name: API Construction Corporation
Source Address: 1633 CR 72, Huntertown, Indiana 46748
Permit Number: T033-34535-00055
Reviewer: Brian Wright

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

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

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

Volatile Organic Compounds

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

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	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.

Abbreviations

VOC = Volatile Organic Compounds
PTE = Potential to Emit



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

January 27, 2015

TO: Garrett 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 Corporation
Permit Number: 033-34535-00055

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 6/13/2013



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Commissioner

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Kirk Braun
API Construction Corporation
PO Box 191
LaOtta, IN 46763

DATE: January 27, 2015

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

SUBJECT: Final Decision
Part 70 Operating Permit Renewal
033-34535-00055

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:
Joseph Kinder – DECA Environmental & Associates
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 6/13/2013

Mail Code 61-53

IDEM Staff	GHOTOPP 1/27/2015 API Construction Corp 033-34535-00055 Final		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

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1		Kirk Braun API Construction Corp PO Box 191 LaOtto IN 46763 (Source CAATS) via confirmed delivery										
2		Mr. Steve Christman NISWMD 2320 W 800 S, P.O. Box 370 Ashley IN 46705 (Affected Party)										
3		DeKalb County Commissioners 100 South Main Street Auburn IN 46706 (Local Official)										
4		Ms. Diane Leroy 303 N. Jackson St. Auburn IN 46706 (Affected Party)										
5		Mr. Barry Fordanish R#3 1480 CR 66 Auburn IN 46706 (Affected Party)										
6		DeKalb County Health Department 220 E 7th St #110 Auburn IN 46706 (Health Department)										
7		Daniel & Sandy Trimmer 15021 Yellow River Road Columbia City IN 46725 (Affected Party)										
8		Garrett Public Library 107 W Houston Garrett IN 46738-1494 (Library)										
9		Brown & Sons Fuel Co. P.O. Box 665 Kendallville IN 46755 (Affected Party)										
10		Mr. Marty K. McCurdy 2550 County Road 27 Waterloo IN 46793 (Affected Party)										
11		Joesph Kinder DECA Environmental & Associates, Inc. 410 1st Avenue NE Carmel IN 46032 (Consultant)										
12		DeKalb County Building Department 301 S Union St Auburn IN 46706 (Local Official)										
13												
14												
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