



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

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NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding a
Significant Revision to a
Federally Enforceable State Operating Permit (FESOP)

for API Construction Corporation in Steuben County

Significant Permit Revision No.: 151-37772-00064

The Indiana Department of Environmental Management (IDEM) has received an application from API Construction Corporation, located at 225 South CR 600 W, Angola, Indiana 46703, for a significant revision of its FESOP Renewal, issued on December 9, 2011. If approved by IDEM's Office of Air Quality (OAQ), this proposed revision would allow API Construction Corporation to make certain changes at its existing source. API Construction Corporation has applied to increase its re-refined waste oil chlorine content limit, from 0.2% to 0.4% by weight. To accommodate this change and to retain its FESOP status, API Construction Corporation has requested to decrease the re-refined waste oil usage and cold-mix asphalt production limits.

This draft FESOP significant permit revision does not contain any new equipment that would emit air pollutants; however, some conditions from previously issued permits/approvals have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes. This notice fulfills the public notice procedures to which those conditions are subject. IDEM has reviewed this application and has developed preliminary findings, consisting of a draft permit and several supporting documents, which would allow for these changes.

A copy of the permit application and IDEM's preliminary findings are available at:

Carnegie Public Library of Steuben County 322 S. Wayne Street Angola, IN 46703	and	IDEM Northern Regional Office 300 N. Michigan Street, Suite 450 South Bend, IN 46601-1295
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A copy of the preliminary findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

How can you participate in this process?

The date that this notice is published in a newspaper marks the beginning of a 30-day public comment period. If the 30th day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the **air pollution impact** of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting, you would have an opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so that you can be added to IDEM's mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number SPR 151-37772-00064 in all correspondence.

Comments should be sent to:

Hannah L. Desrosiers
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for extension 3-9327
Or dial directly: (317) 233-9327
Fax: (317)-232-6749 attn: Hannah Desrosiers
E-mail: hdesrosi@idem.in.gov

All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have legal authority to regulate zoning, odor, or noise. For such issues, please contact your local officials.

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>.

What will happen after IDEM makes a decision?

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM's response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision. The notice will provide details on how you may appeal IDEM's decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above, at the local library indicated above, at the IDEM Regional Office indicated above, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions, please contact Ms. Hannah Desrosiers, of my staff, at the above address.



Nathan C. Bell, Section Chief
Permits Branch
Office of Air Quality



Indiana Department of Environmental Management

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Carol S. Comer
Commissioner

Kirk Braun, President
API Construction Corporation
PO Box 191
LaOtto, IN 46763

Re: 151-37772-00064
Significant Revision to
F151-30477-00064

Dear Mr. Braun:

API Construction Corporation was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F151-30477-00064, on December 9, 2011, for a stationary hot asphalt drum mix plant, located at 225 South CR 600 W, Angola, IN 46703. On October 19, 2016, the Office of Air Quality (OAQ) received an application from the source requesting to increase in the re-refined waste oil chlorine content limit, from 0.2% to 0.4% by weight. To accommodate this change and to retain its FESOP status, API Construction Corporation has also requested to decrease the re-refined waste oil usage and cold-mix asphalt production limits. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a Significant Permit Revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the Significant Permit Revision into the permit.

All other conditions of the permit shall remain unchanged and in effect. Please find attached the entire FESOP as revised. The permit references the below-listed attachment(s). Since these attachments have been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of these attachments with this revision:

- Attachment A: Fugitive Dust Control Plan
- Attachment B: 40 CFR 60, Subpart I, New Source Performance Standards for Hot-mix Asphalt Facilities

Previously issued approvals for this source containing these attachments are available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

Federal rules under Title 40 of United States Code of Federal Regulations may also be found on the U.S. Government Printing Office's Electronic Code of Federal Regulations (eCFR) website, located on the Internet at: http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40tab_02.tpl.

A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. 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>.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5.

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If you have any questions on this matter, please contact Ms. Hannah L. Desrosiers, of my staff, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251 at 317-233-9327 or 1-800-451-6027, and ask for extension 3-9327.

Sincerely,

Nathan C. Bell, Section Chief
Permits Branch
Office of Air Quality

Attachments: Revised permit and Technical Support Document.

cc: File - Steuben County
Steuben County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch
IDEM Northern Regional Office



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Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

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

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

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

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

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

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

Significant Permit Revision No. 151-37772-00064	
Issued By: Nathan C. Bell, Section Chief Permits Branch Office of Air Quality	Issuance Date: Expiration Date: December 9, 2021

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**New Source Performance Standards for Hot-mix Asphalt Facilities [40 CFR Part 60,
Subpart I]Attachment B**

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SECTION A

SOURCE SUMMARY

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

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

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

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

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

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

- (a) One (1) hot asphalt drum mix dryer, constructed in 2007, with a maximum capacity of 200 tons per hour of raw material, equipped with one (1) 50 million British thermal units (MMBtu) per hour liquefied petroleum fuel fired burner, using #2 fuel oil or re-refined waste oil as a backup fuels, processing blast furnace slag and steel slag in the aggregate mixer, equipped with one (1) jet pulse baghouse for particulate matter control, exhausting through one (1) stack, identified as SV-1; [This source does not use shingles in the aggregate mixer.]
- (b) One (1) 25,000 gallon asphalt storage tank;
- (c) One (1) 12,000 gallon asphalt storage tank;
- (d) One (1) 12,000 gallon No. 2 fuel oil storage tank.

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

- (e) Cold-mix cutback asphalt production and storage piles.

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

This stationary source also includes the following insignificant activities:

- (a) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) Btu per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight:
 - (1) One (1) No. 2 distillate fuel oil fired hot oil heater, with a maximum rated capacity of 1.0 million British thermal units per hour.
- (b) Combustion source flame safety purging on startup.

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

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

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

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SECTION B

GENERAL CONDITIONS

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

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

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

- (a) This permit, F 151-30477-00064, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

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

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

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

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

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

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

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

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

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

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

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

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

- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:
- (1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
 - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

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

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

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

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

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

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

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

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

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

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The

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PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
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within two (2) working days of the time when emission limitations were exceeded due to the emergency.

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

- (A) A description of the emergency;

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

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

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

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

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

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

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- (2) revised, or
- (3) deleted.

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

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

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

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

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

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

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(42). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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Permit Administration and Support Section, Office of Air Quality
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- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

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

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:
- Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

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

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) and (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 approval required by 326 IAC 2-8-11.1 has been obtained;
 - (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

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- (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
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and

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

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

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b)(1) and (c). The Permittee shall make such records available, upon reasonable request, for public review.

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

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

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

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

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

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

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

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

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

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

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
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Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

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

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

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

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to

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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.

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SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

(a) Pursuant to 326 IAC 2-8:

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

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

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

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

C.3 Opacity [326 IAC 5-1]

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

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

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Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

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

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

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

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

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

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

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

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

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

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

All required notifications shall be submitted to:

Indiana Department of Environmental Management

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

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

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

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

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

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

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Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the

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Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

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

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

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

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. 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 FESOP.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 2-8-4(3)(C)][326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. 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

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the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

- (b) The address for report submittal is:

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

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

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

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

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SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) hot asphalt drum mix dryer, constructed in 2007, with a maximum capacity of 200 tons per hour of raw material, equipped with one (1) 50 million British thermal units (MMBtu) per hour liquefied petroleum fuel fired burner, using #2 fuel oil or re-refined waste oil as a backup fuels, processing blast furnace slag and steel slag in the aggregate mixer, equipped with one (1) jet pulse baghouse for particulate matter control, exhausting through one (1) stack, identified as SV-1; [This source does not use shingles in the aggregate mixer.]
- (b) One (1) 25,000 gallon asphalt storage tank;
- (c) One (1) 12,000 gallon asphalt storage tank;
- (d) One (1) 12,000 gallon No. 2 fuel oil storage tank.

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

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

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

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

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

- (a) The asphalt production rate shall not exceed 1,400,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) PM emissions from the dryer/mixer shall not exceed 0.240 pounds of PM per ton of asphalt produced.

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

D.1.2 FESOP Limits: PM10, PM2.5, VOC, and CO [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 8-1-6]

Pursuant to 326 IAC 2-8-4, and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable, the Permittee shall comply with the following:

- (a) The asphalt production rate shall not exceed 1,400,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) PM10 emissions from the dryer/mixer shall not exceed 0.100 pounds of PM10 per ton of asphalt produced.
- (c) PM2.5 emissions from the dryer/mixer shall not exceed 0.122 pounds of PM2.5 per ton of asphalt produced.

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- (d) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.
- (e) CO emissions from the dryer/mixer shall not exceed 0.13 pounds of CO per ton of asphalt produced.

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

Additionally, compliance with the limit in condition D.1.2(d), shall limit VOC potential emissions from the dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 (Best Available Control Technologies (BACT)) not applicable.

D.1.3 FESOP Limits: SO₂ and HAPs [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, the Permittee shall comply with the following:

(a) Fuel and Slag Content Limits

- (1) The sulfur content of No. 2 fuel oil shall not exceed 0.5 percent by weight.
- (2) The sulfur content of the re-refined waste oil shall not exceed 1.4 percent by weight.
- (3) The ash content of the re-refined waste oil shall not exceed 3.0 percent by weight.
- (4) The chlorine content of the re-refined waste oil shall not exceed 0.4 percent by weight.
- (5) The lead content of the re-refined waste oil shall not exceed 0.010 percent by weight.
- (6) Hydrogen chloride emissions from the dryer/mixer shall not exceed 0.0264 pounds of HCl per gallon of re-refined waste oil burned.
- (7) The sulfur content of the blast furnace slag shall not exceed 1.5 percent by weight.
- (8) SO₂ emissions from the dryer/mixer shall not exceed 0.74 pounds of SO₂ per ton of Blast Furnace Slag processed.
- (9) The sulfur content of the steel slag shall not exceed 0.66 percent by weight.
- (10) SO₂ emissions from the dryer/mixer shall not exceed 0.0014 pounds of SO₂ per ton of steel slag processed.

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(b) Single Fuel and Slag Usage Limitations:

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

- (1) No. 2 fuel oil usage shall not exceed 2,700,105 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) Re-refined waste oil usage shall not exceed 698,642 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (3) Blast furnace slag and steel usage shall not exceed 2,500 tons per twelve (12) consecutive month period, each, with compliance determined at the end of each month.

(c) Multiple Fuel Usage Limitations

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

- (1) SO₂ emissions from the dryer/mixer burner shall not exceed 96.78 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) HCL emissions from the dryer/mixer burner shall not exceed 9.22 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

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

D.1.4 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

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

- (a) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed 0.5 pounds per MMBtu when using distillate oil.
- (b) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed 1.6 pounds per MMBtu when using re-refined waste oil.
- (c) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

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

D.1.5 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

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Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.1.6 Particulate Control

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

D.1.7 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

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

D.1.8 Sulfur Dioxide Emissions and Sulfur Content

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- (1) Providing vendor analysis of the steel slag delivered, if accompanied by a vendor certification; or
- (2) Analyzing a sample of the slag delivery to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
- (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 50 MMBtu per hour burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

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

D.1.9 Multiple Fuel Usage / SO₂ & HCL Emissions

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

- (a) Sulfur Dioxide (SO₂) emissions calculation

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

Where:

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

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

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

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

Emission Factors:

E_l = 0.00002 pounds per gallon of liquefied petroleum fuel oil

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

E_w = 0.21 pounds per gallon of re-refined waste oil

- (b) Hydrogen Chloride (HCL) emissions calculation

$$\text{HCL} = \frac{W(E_w)}{2000 \text{ lbs/ton}}$$

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where:

HCl = tons of hydrogen chloride (HCL) emissions for a twelve (12) month consecutive period

W = gallons of re-refined waste oil used in the last twelve (12) months.

Emission Factor

E_w = 0.0264 lbs/gallons of re-refined waste oil.

D.1.10 Hydrogen Chloride Emissions and Chlorine Content

To demonstrate compliance with condition D.1.3(a)(3), that the chlorine content of the fuel used for the aggregate dryer does not exceed 0.4 percent by weight of chlorine, when operating on re-refined waste oil, by providing vendor analysis of fuel delivered accompanied by a vendor certification or by conducting a stack testing.

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

D.1.11 Visible Emissions Notations

- (a) Visible emission notations of the dryer/mixer stack exhaust (SV-1) shall be performed at least once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) Visible emission notations of the conveyors, screens, and material transfer points shall be performed at least once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (c) 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.
- (d) 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.
- (e) 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.
- (f) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C- Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

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

D.1.12 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (c) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

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

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

D.1.13 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.1.1(a), D.1.2(a) and D.1.5(a), the Permittee shall maintain monthly records of the amount of asphalt processed through the dryer/mixer.
- (b) To document the compliance status with the fuel and slag usage limitations contained in Conditions D.1.3, D.1.4, D.1.9, and D.1.10, the Permittee shall maintain records in accordance with (1) through (7) below. Records maintained for (1) through (7) shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3, D.1.4, D.1.9, and D.1.10, and shall be available no later than thirty (30) days after the end of each compliance period.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide emission rates for each fuel used at the source since the last compliance determination period;
 - (2) Actual re-refined waste oil usage, ash, chlorine, and lead content, and equivalent hydrogen chloride (HCL) emission rate for re-refined waste oil used at the source since the last compliance determination period;
 - (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and
 - (4) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Fuel supplier certifications;
 - (ii) The name of the fuel supplier; and
 - (iii) A statement from the fuel supplier that certifies the sulfur content of the #2 fuel oil and re-refined waste oil, and the ash, chlorine, and lead content of the re-refined waste oil.

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- (5) Actual blast furnace slag and steel slag usage, sulfur content, for all blast furnace slag and steel slag used at the source since the last compliance determination period;
- (6) A certification, signed by the owner or operator, that the records of the blast furnace slag and steel slag supplier certifications represent all of the blast furnace slag and steel slag used during the period; and
- (7) If the blast furnace slag and steel slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Blast furnace slag and steel slag supplier certifications;
 - (ii) The name of the blast furnace slag and steel slag supplier; and
 - (iii) A statement from the blast furnace slag and steel slag supplier that certifies the sulfur content of the blast furnace slag and steel slag.
- (c) To document the compliance status with Condition D.1.11(a), the Permittee shall maintain records of visible emission notations of the dryer/mixer stack exhaust (SV-1) at least once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the plant did not operate that day).
- (d) To document the compliance status with Condition D.1.11(b), the Permittee shall maintain records of visible emission notations of the conveyors, screens, and material transfer points at least once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the plant did not operate that day).
- (e) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.14 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.1(a), D.1.2(a), D.1.3(b), D.1.3(c), and D.1.9, shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require the certification that meet the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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SECTION D.2

FACILITY OPERATION CONDITIONS

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

- (e) Cold-mix cutback asphalt production and storage piles.

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

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

D.2.1 PSD Minor and FESOP Limits: VOC and HAPs [326 IAC 2-2][326 IAC 2-8-4][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, the Permittee shall comply with the following:

- (a) VOC emissions from the sum of the binders shall not exceed 54.60 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) Liquid binders used in the production of cold mix asphalt shall be defined as follows:
 - (1) Cut back asphalt rapid cure, containing a maximum of 25.3% of the liquid binder by weight of VOC solvent and 95% by weight of VOC solvent evaporating.
 - (2) Cut back asphalt medium cure, containing a maximum of 28.6% of the liquid binder by weight of VOC solvent and 70% by weight of VOC solvent evaporating.
 - (3) Cut back asphalt slow cure, containing a maximum of 20% of the liquid binder by weight of VOC solvent and 25% by weight of VOC solvent evaporating.

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

- (c) The liquid binder used in cold mix asphalt production shall be limited as follows:
 - (1) The amount of VOC solvent used in rapid cure cutback asphalt shall not exceed 57.47 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (2) The amount of VOC solvent used in medium cure cutback asphalt shall not exceed 77.99 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (3) The amount of VOC solvent used in slow cure cutback asphalt shall not exceed 218.39 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (4) The VOC solvent allotments in (1) through (3) above shall be adjusted when more than one type of binder is used per twelve (12) consecutive month period with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment factor listed in the table that follows.

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

where: year = each twelve (12) month consecutive period

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

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

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

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

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

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

D.2.3 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.2.1 and D.2.2, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with each of the limits established in Conditions D.2.1 and D.2.2:
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Liquid asphalt binder usage in the production of cold mix asphalt since the last compliance determination period.
 - (3) VOC solvent content by weight of the liquid binder used in the production of cold mix asphalt since the last compliance determination period.
 - (4) Amount of VOC solvent used in the production of cold mix asphalt and the amount of VOC emitted since the last compliance determination period.

Records that may be used to document the information included in (1) through (4) may include: delivery tickets, manufacturer's data, material safety data sheets (MSDS), and

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other documents necessary to verify the type and amount used. Test results of ASTM tests for asphalt cutback and asphalt emulsion may be used to document volatilization.

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

D.2.4 Reporting Requirements

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

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SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

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

- (a) One (1) hot asphalt drum mix dryer, constructed in 2007, with a maximum capacity of 200 tons per hour of raw material, equipped with one (1) 50 million British thermal units (MMBtu) per hour liquefied petroleum fuel fired burner using #2 fuel oil or re-refined waste oil as a backup fuels, processing blast furnace slag and steel slag in the aggregate mixer, equipped with one (1) jet pulse baghouse for particulate matter control, exhausting through one (1) stack, identified as SV-1; [This source does not use shingles in the aggregate mixer.]
- (b) One (1) 25,000 gallon asphalt storage tank;
- (c) One (1) 12,000 gallon asphalt storage tank;
- (d) One (1) 12,000 gallon No. 2 fuel oil storage tank.

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

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

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

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

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR 60, Subpart I.
- (b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

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

E.1.2 Hot Mix Asphalt Facilities NSPS [40 CFR Part 60, Subpart I][326 IAC 12]

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

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

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

In order to document the compliance status with Condition E.1.2, the Permittee shall perform the testing required under 40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

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

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

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

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

Please check what document is being certified:

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

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

Signature:

Printed Name:

Title/Position:

Date:

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

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

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

This form consists of 2 pages

Page 1 of 2

- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) 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 2-8-12

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:

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

Page 2 of 2

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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

FESOP Quarterly Report - HMA Production

Source Name: API Construction Corp
Source Address: 225 South CR 600 W, Angola, Indiana 46703
FESOP Permit No.: F 151-30477-00064
Facility: One (1) aggregate dryer/mixer
Parameter: Asphalt production
Limit: The asphalt production rate shall not exceed 1,400,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	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: _____

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

FESOP Quarterly Report - Fuel, Slag, & Cold-mix Asphalt

Page 1 of 3

Source Name: API Construction Corp
Source Address: 225 South CR 600 W, Angola, Indiana 46703
FESOP Permit No.: F 151-30477-00064
Facility: Dryer/mixer burner
Parameter: **Fuel & Slag Usage / SO₂ and HCL emissions**
Emission Limits: Sulfur dioxide (SO₂) emissions shall not exceed 96.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.9(a).
Hydrogen Chloride (HCL) emissions shall not exceed 9.22 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.9(b).

Fuel & Slag Limits: When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, fuel and slag usage shall not exceed the following:

Fuel Type (Units)	Fuel Usage Limit (per 12 consecutive month period)
No. 2 Distillate Fuel Oil (gallons)	2,700,105
Re-Refined Waste Oil (gallons)	698,642
Blast Furnace Slag (tons)	2,500
Steel Slag (tons)	2,500

Facility: Cold-mix Asphalt Production
Parameter: **Binder Usage / VOC Emissions**
Emission Limits: Volatile Organic Compounds (VOC) emissions from the sum of the binders shall not exceed 54.60 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Type of Binder	Binder Usage Limit (per 12 consecutive month period)
Cutback Asphalt Rapid Cure	57.47
Cutback Asphalt Medium Cure	77.99
Cutback Asphalt Slow Cure	218.39

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FESOP Quarterly Report - Fuel & Slag Usage / SO2 and HCL emissions

QUARTER: _____ YEAR: _____

Month	Types: Fuel / Slag (units)	Column 1	Column 2	Column 1 + Column 2	Equation Results	
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	Sulfur Dioxide (SO2) Emissions (tons per 12 months)	Hydrogen Chloride (HCL) Emissions (tons per 12 months)
	No. 2 Fuel Oil (gallons)					
	Liquefied Petroleum Fuel (gallons)					
	Re-Refined Waste Oil (gallons)					
	Blast Furnace Slag (tons)					
	Steel Slag Usage (tons)					
	No. 2 Fuel Oil (gallons)					
	Liquefied Petroleum Fuel (gallons)					
	Re-Refined Waste Oil (gallons)					
	Blast Furnace Slag (tons)					
	Steel Slag Usage (tons)					
	No. 2 Fuel Oil (gallons)					
	Liquefied Petroleum Fuel (gallons)					
	Re-Refined Waste Oil (gallons)					
	Blast Furnace Slag (tons)					
	Steel Slag Usage (tons)					

No deviation occurred in this reporting period.

Submitted by: _____ Date: _____

Deviation/s occurred in this reporting period.

Title / Position: _____ Phone: _____

Deviation has been reported on: _____

Signature: _____

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FESOP Quarterly Report - Cold-mix Asphalt Binder Usage / VOC Emissions

QUARTER: _____ YEAR: _____

Month	Binder Type	Column 1	Column 2	Column 1 + Column 2	Equation
		Solvent Usage (tons) This Month	Solvent Usage (tons) Previous 11 Months	Solvent Usage (tons) 12 Month Total	VOC Emissions (tons per 12 months)
	Cutback asphalt rapid cure liquid binder				
	Cutback asphalt medium cure liquid binder				
	Cutback asphalt slow cure liquid binder				
	Cutback asphalt rapid cure liquid binder				
	Cutback asphalt medium cure liquid binder				
	Cutback asphalt slow cure liquid binder				
	Cutback asphalt rapid cure liquid binder				
	Cutback asphalt medium cure liquid binder				
	Cutback asphalt slow cure liquid binder				

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

where: year = each twelve (12) month consecutive period

Type of Binder	Adjustment Factor
Cutback Asphalt Rapid Cure	1.053
Cutback Asphalt Medium Cure	1.429
Cutback Asphalt Slow Cure	4.0

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

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

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

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

Months: _____ to _____ Year: _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. 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".

NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

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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: _____

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

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

Source Description and Location

Source Name: API Construction Corporation
Source Location: 225 South CR 600 W, Angola, Indiana 46703
County: Steuben
SIC Code: 2951 (Asphalt Paving Mixtures and Blocks)
Operation Permit No.: F151-30477-00064
Operation Permit Issuance Date: December 9, 2011
Significant Permit Revision No.: 151-37772-00064
Permit Reviewer: Hannah L. Desrosiers

On October 19, 2016, the Office of Air Quality (OAQ) received an application from API Construction Corporation related to a modification to an existing stationary hot asphalt drum mix plant.

Existing Approvals

The source was issued FESOP Renewal No. F151-30477-00064 on December 9, 2011. There have been no subsequent approvals issued.

County Attainment Status

The source is located in Steuben County. The following attainment status designations are applicable to Steuben 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.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.	

(Air Pollution Control Division; 326 IAC 1-4-76; filed Dec 26, 2007, 1:43 p.m.: 20080123-IR-326070308FRA; filed Jan 30, 2013, 12:34 p.m.: 20130227-IR-326110774FRA; filed Oct 25, 2013, 2:41 p.m.: 20131120-IR-326130164FRA)

- (a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Steuben County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) PM_{2.5}
Steuben County has been classified as attainment for PM_{2.5}. 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
Steuben 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 facilities to which the New Source Performance Standard is applicable, are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

This source is subject to New Source Performance Standard (NSPS) Subpart I, Standards of Performance for Hot Mix Asphalt Facilities [40 CFR Part 60, Subpart I], which was in effect on August 7, 1980.

Status of the Existing Source

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

This PTE table is from the TSD for FESOP Renewal No.: F151-30477-00064, issued on December 9, 2011.

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)								
	PM	PM10*	PM2.5**	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Ducted Emissions									
Dryer/Mixer ⁽¹⁾ (Process)	167.97	70.0	85.7	40.6	38.5	22.4	91	7.46	2.17 formaldehyde
Fuel Combustion ⁽²⁾ (worst case)	89.4	71.26	71.26	95.85	33.73	2.47	18.9	6.35	6.15 HCl
Dryer/Mixer Slag Processing	0.0	0.0	0.0	0.93	0.0	0.0	0.0	0.0	0
Hot Oil Heaters Fuel Combustion	0.06	0.10	0.10	2.22	0.63	0.01	0.16	0.0	0.002 hexane
Worst Case Emissions	168.03	71.36	85.8	99.0	39.1	22.41	91.2	7.5	6.15 HCl
Fugitive Emissions									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.78	0.78	0.78	0	0	11.99	2.02	0.2	0.06 formaldehyde
Material Storage Piles	0.84	0.30	0.30	0	0	0	0	0	0
Material Processing and Handling	4.52	2.14	0.32	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	18.62	6.52	6.52	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	49.71	12.67	1.27	0	0	0	0	0	0
Cold Mix Asphalt Production ⁽³⁾	0	0	0	0	0	62.78	0	16.4	5.65 xylenes
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl.	0	negl.	negl.
Total Fugitive Emissions	74.47	22.40	9.18	0	0	74.77	2.02	16.58	5.65 xylenes
Total PTE of Entire Source	242.5	93.8	95.0	99.0	39.13	97.17	93.2	24.04	6.15 HCl
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	NA	NA
negl. = negligible *Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". **PM _{2.5} listed is direct PM _{2.5} . (1) Limited PTE based upon annual production limit and lb/ton emission limits to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP). (2) Limited PTE based upon annual production and fuel usage limits to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP). (3) Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP).									

- (a) This existing source is not a major stationary source under PSD (326 IAC 2-2), because no PSD regulated pollutant, excluding GHGs, is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories as specified in 326 IAC 2-2-1(ff)(1).
- (b) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the Permittee has accepted limits on HAPs emissions to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).
- (c) 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.

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by API Construction Corporation on October 19, 2016, relating to an increase in the re-refined waste oil chlorine content limit, from 0.2% to 0.4% by weight. To accommodate this change and to retain its FESOP status, API Construction Corporation has requested to decrease the re-refined waste oil usage and cold-mix asphalt production limits.

The following is a list of the modified emission unit and pollution control device:

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

IDEM has determined the following additional changes were needed to preserve the FESOP status of this source:

1. The re-refined waste oil ash and lead content limits were added to limit particulate emissions (PM/PM10/PM2.5) from the re-refined waste oil combustion; and
2. An annual (tons/yr) HCL emissions limit was added to limit single and total HAPs from the re-refined waste oil combustion.

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – FESOP Revision

Pursuant to 326 IAC 2-8-11.1(f), this FESOP is being revised through a FESOP Significant Permit Revision because the proposed revision is not an Administrative Amendment or Minor Permit revision and the proposed revision involves adjustment of the existing PSD Minor and FESOP re-refined waste oil chlorine content (%), hydrogen chloride (HCL) emissions (pounds/gallon), and fuel usage (gallons/year)

limits. Additionally, new PSD Minor and FESOP re-refined waste oil ash and lead content (%) limits and an annual hydrogen chloride (HCL) emissions limit (tons/year) have been added. Furthermore, the annual cold-mix asphalt liquid binder VOC emissions and VOC Solvent usage limits have been adjusted.

PTE of the Entire Source After Issuance of the FESOP Revision

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

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)								
	PM	PM10*	PM2.5**	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Ducted Emissions									
Dryer Fuel Combustion ⁽¹⁾ (worst case)	67.07 89.43	53.45 71.26	53.45 71.26	95.85	33.73	2.47	18.89	9.60 6.36	9.226.15 HCl
Dryer/Mixer ⁽²⁾ (Process)	167.97	70.00	85.72	40.60	38.50	22.40	91.00	7.46	2.17 formaldehyde
Dryer/Mixer Slag Processing	0.0	0.0	0.0	0.93	0.0	0.0	0.0	0.0	0
Hot Oil Heaters Fuel Combustion	0.06	0.10	0.10	2.22	0.63	0.01	0.16	0.0022	0.0019 hexane
Worst Case Emissions	168.03	70.10 71.36	85.82	99.00	39.13	22.41	91.16	9.60 7.46	9.226.15 HCl
Fugitive Emissions									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.78	0.78	0.78	0	0	11.99	2.02	0.20	0.06 formaldehyde
Material Storage Piles	0.84	0.30	0.30	0	0	0	0	0	0
Material Processing and Handling	4.52	2.14	0.32	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	18.62	6.52	6.52	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	49.71	12.67	1.27	0	0	0	0	0	0
Cold Mix Asphalt Production ⁽³⁾	0	0	0	0	0	54.60 62.78	0	14.24 16.38	4.915.65 xylenes
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl.	0	negl.	negl.
Total Fugitive Emissions	74.47	22.40	9.18	0	0	66.59 74.77	2.02	14.44 16.58	4.915.65 xylenes
Total PTE of Entire Source	242.50	92.50 93.76	95.00	99.00	39.13	88.99 97.18	93.17	24.04	9.226.15 HCl
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	NA	NA
negl. = negligible *Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". **PM _{2.5} listed is direct PM _{2.5} . (1) Limited PTE based upon annual production and fuel usage limits to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP). (2) Limited PTE based upon annual production limit and lb/ton emission limits to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP). (3) Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP).									

The table below summarizes the potential to emit of the entire source after issuance of this *Revision*, reflecting all limits, of the emission units. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted).

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of the Revision (tons/year)								
	PM	PM10*	PM2.5**	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Ducted Emissions									
Dryer Fuel Combustion ⁽¹⁾ (worst case)	67.07	53.45	53.45	95.85	33.73	2.47	18.89	9.60	9.22 HCl
Dryer/Mixer ⁽²⁾ (Process)	167.97	70.00	85.72	40.60	38.50	22.40	91.00	7.46	2.17 formaldehyde
Dryer/Mixer Slag Processing	0.0	0.0	0.0	0.93	0.0	0.0	0.0	0.0	0
Hot Oil Heaters Fuel Combustion	0.06	0.10	0.10	2.22	0.63	0.01	0.16	0.0022	0.0019 hexane
Worst Case Emissions	168.03	70.10	85.82	99.00	39.13	22.41	91.16	9.60	9.22 HCl
Fugitive Emissions									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.78	0.78	0.78	0	0	11.99	2.02	0.20	0.06 formaldehyde
Material Storage Piles	0.84	0.30	0.30	0	0	0	0	0	0
Material Processing and Handling	4.52	2.14	0.32	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	18.62	6.52	6.52	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	49.71	12.67	1.27	0	0	0	0	0	0
Cold Mix Asphalt Production ⁽³⁾	0	0	0	0	0	54.60	0	14.24	4.91 xylenes
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl.	0	negl.	negl.
Total Fugitive Emissions	74.47	22.40	9.18	0	0	66.59	2.02	14.44	4.91 xylenes
Total PTE of Entire Source	242.50	92.50	95.00	99.00	39.13	88.99	93.17	24.04	9.22 HCl
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	NA	NA
negl. = negligible *Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". **PM _{2.5} listed is direct PM _{2.5} . (1) Limited PTE based upon annual production and fuel usage limits to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP). (2) Limited PTE based upon annual production limit and lb/ton emission limits to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP). (3) Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP).									

(a) PSD Minor and FESOP Status

This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit Volatile Organic Compounds (VOCs) 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.

Additionally, this revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs) from the entire source will continue to be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP).

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable, SO₂, VOC, and HAP emissions shall be limited as follows::

(1) Dryer/Mixer Fuel Limitations

(A) Fuel and Slag Content Limits

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

This is an existing requirement for this source.

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

This is an existing requirement for this source.

- (iii) The ash content of the re-refined waste oil shall not exceed 3.0 percent by weight.

This is a new requirement for this source.

- (iv) The chlorine content of the re-refined waste oil shall not exceed 0.4 percent by weight.

This is a change from a chlorine content of 0.2 percent by weight.

- (v) The lead content of the re-refined waste oil shall not exceed 0.010 percent by weight.

This is a new requirement for this source.

- (vi) Hydrogen chloride emissions from the dryer/mixer shall not exceed 0.0264 pounds of HCl per gallon of re-refined waste oil burned.

This is a change from 0.0132 pounds of HCl per gallon of re-refined waste oil burned.

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

This is an existing requirement for this source.

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

This is an existing requirement for this source.

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

This is an existing requirement for this source.

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

(B) Single Fuel Usage Limitations

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

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

This is an existing requirement for this source.

- (ii) Re-refined waste oil usage shall not exceed 698,642 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

This is a change from 931,523 gallons per twelve (12) consecutive month period.

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

This is an existing requirement for this source.

(C) Multiple Fuel Usage Limitations

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

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

$$SO_2 = 95.85 + 0.93 = 96.78$$

The Permittee shall limit fuel usage in the dryer/mixer burner in order to limit SO₂ emissions from the dryer/mixer to less than the limit above according to the following formula:

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

Where:

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

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

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

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

Emission Factors:

$E_I = 0.00002$ pounds per gallon of liquefied petroleum fuel oil

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

$E_w = 0.21$ pounds per gallon of re-refined waste oil

This is an existing requirement for this source.

- (2) HCL emissions from the dryer/mixer burner shall not exceed 9.22 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Note: This limit complements the re-refined waste oil fuel content and pounds per gallon emissions limits being added to the permit, to render them federally enforceable.

The Permittee shall limit fuel usage in the dryer/mixer burner in order to limit HCL emissions from the dryer/mixer to less than the limit above according to the following formula:

$$\text{HCL} = \frac{W(E_w)}{2000 \text{ lbs/ton}}$$

where:

HCL = tons of hydrogen chloride emissions for a twelve (12) month consecutive period

W = gallons of re-refined waste oil used in the last twelve (12) months.

Emission Factor

$E_w = 0.0264$ lbs/gallon of re-refined waste oil.

This is a new requirement for this source.

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

- (2) Cold-mix Production Operation Limitations

- (A) VOC emissions from the sum of the binders shall not exceed 54.60 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

This is a change from 62.8 tons per twelve (12) consecutive month period.

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

- (i) 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.

This is an existing requirement for this source.

- (ii) 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.

This is an existing requirement for this source.

- (iii) 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.

This is an existing requirement for this source.

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

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

- (1) The amount of VOC solvent used in rapid cure cutback asphalt shall not exceed 57.47 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

This is a change from 66.1 tons per twelve (12) consecutive month period.

- (2) The amount of VOC solvent used in medium cure cutback asphalt shall not exceed 77.99 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

This is a change from 89.7 tons per twelve (12) consecutive month period.

- (3) The amount of VOC solvent used in slow cure cutback asphalt shall not exceed 218.39 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

This is a change from 251.1 tons per twelve (12) consecutive month period.

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

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

where: year = each twelve (12) month consecutive period

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

This is an existing requirement for this source.

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

Federal Rule Applicability Determination

Compliance Assurance Monitoring (CAM)

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

New Source Performance Standards (NSPS)

- (a) 40 CFR 60, Subpart Dc - Standards for Small Industrial/Commercial/Institutional Steam Generating Units
The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc (326 IAC 12), are not included for this proposed revision, because the 50.0 MMBtu/hr liquefied petroleum fuel fired burner is still a direct-fired process unit and not a steam generating unit, as defined in 40 CFR 60.41c.
- (b) There are no new New Source Performance Standards (40 CFR Part 60) and 326 IAC 12 included for this proposed revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (a) 40 CFR 63, Subpart DDDDD - NESHAPs for Industrial, Commercial, and Institutional Boilers and Process Heaters
The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD (5D) (326 IAC 20-95), are not included for this proposed revision, since this source is still not a major source of HAPs, and is not located at nor is a part of a major source of HAP emissions.
- (b) 40 CFR 63, Subpart JJJJJ - NESHAPs for Industrial, Commercial, and Institutional Boilers Area Sources
The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJ (6J), are not included for this proposed revision, since although this existing source is still an area source of hazardous air pollutants (HAP), as defined in §63.2, the 50.0 MMBtu/hr liquefied

petroleum fuel fired burner is still a direct-fired process unit and not a boiler, as defined in 40 CFR 63.11237.

- (c) There are no new National Emission Standards for Hazardous Air Pollutants (40 CFR Part 63), 326 IAC 14 and 326 IAC 20 included for this proposed revision.

State Rule Applicability Determination

- (a) 326 IAC 2-8-4 (FESOP)
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will continue to be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP). See the "PTE of the Entire Source After Issuance of the FESOP Revision" section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply to this revision. See the "PTE of the Entire Source After Issuance of the FESOP Revision" section above.
- (c) 326 IAC 2-3 (Emission Offset (EO))
Montgomery County has been classified as attainment or unclassifiable in Indiana for all criteria pollutants. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) do not apply to this revision and are not included in the permit.
- (d) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, pursuant to 326 IAC 2-6-1(b), the source is still only subject to additional information requests as provided in 326 IAC 2-6-5.
- (e) 326 IAC 5-1 (Opacity Limitations)
This stationary source, located in Steuben County, continues to be subject to the opacity limitations specified in 326 IAC 5-1-2(1).
This is an existing requirement for this source.
- (f) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall continue to 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.
This is an existing requirement for this source.
- (g) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
This source continues to be subject to the requirements of 326 IAC 6-5, because the asphalt load-out and on-site yard, hot oil and asphalt heaters, material screening, and conveying, material processing and handling, material storage piles, and paved roads each continue to have potential fugitive particulate emissions greater than 25 tons per year. Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan, which is included as Attachment A to the permit.
This is an existing requirement for this source.

- (h) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD, above.
- (i) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD, above.

State Rule Applicability – Individual Facilities

50 MMBtu/hr Liquefied Petroleum Fuel-Fired [Dryer] Burner: Fuel Combustion

- (a) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit HAPs, from fuel combustion in the 50 MMBtu/hr liquefied petroleum fuel-fired [dryer] burner is still greater than ten (10) tons per year for any single HAP and greater than twenty-five (25) tons per year of a combination of HAPs. However, the source has agreed to continue to limit potential HAPs emissions from the dryer burner to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) do not apply to this revision, and are not included in the in the permit. See the "PTE of the Entire Source After Issuance of the FESOP Revision" section above, and the "State Rule Applicability – Individual Facilities" section below, for more detail.

See Appendices A.1 and A.2 of this document for the detailed calculations.

This is an existing requirement for this source.

- (b) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
The 50 MMBtu/hr liquefied petroleum fuel-fired [dryer] burner is still not a source of indirect heating, as defined in 326 IAC 1-2-19 "Combustion for Indirect Heating". Therefore, the requirements of 326 IAC 6-2 do not apply to this revision and are not included in the permit.
- (c) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
Fuel combustion is exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight. Therefore, the requirements of 326 IAC 6-3 do not apply to this revision, and are not included in the in the permit.
- (d) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)
The 50 MMBtu/hr liquefied petroleum fuel-fired [dryer] burner is still subject to 326 IAC 7-1.1 because its potential to emit SO₂ is equal to or greater than twenty-five (25) tons/year, or ten (10) pounds/hour, (unlimited potential emissions are 321.93 tons per year). Therefore, pursuant to this rule, sulfur dioxide emissions from the dryer burner shall continue to be limited to:

(A) Five-tenths (0.5) pounds per million Btu heat input for distillate oil combustion.

(B) One and six tenths (1.6) pounds per million Btu heat input for residual oils.

Note: No. 2 fuel oil is considered distillate oil and No. 4 residual fuel oil is considered residual oil.

See Appendix A.1 of this document for the detailed calculations.

This is an existing requirement for this source.

- (e) 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements)
Pursuant to 326 IAC 7-2-1(c), the source shall continue to submit reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate (pounds SO₂ per MMBtu), to the OAQ upon request.

This is an existing requirement for this source.

- (f) 326 IAC 8-1-6 (Best Available Control Technology (BACT))
The unlimited VOC potential emissions from fuel combustion in the 50 MMBtu/hr liquefied petroleum fuel-fired [dryer] burner are still less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 do not apply to this revision and are not included in the permit.

See Appendix A.1 of this document for the detailed calculations.

Cold-mix Cutback Asphalt Production and Storage Piles.

- (a) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The unlimited potential to emit of HAPs from the cold-mix asphalt production and storage piles is still greater than ten (10) tons per year for any single HAP and/or greater than twenty-five (25) tons per year of a combination of HAPs. However, the source has opted to continue to limit the potential to emit of HAPs from the cold-mix asphalt production operation to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the requirements of 326 IAC 2-4.1 do not apply to this revision and are not included in the permit.

See Appendices A.1 and A.2 of this document for the detailed calculations.

This is an existing requirement for this source.

- (b) 326 IAC 8-1-6 (Best Available Control Technology (BACT))
The existing cold-mix asphalt production and storage piles, a continued source of potential VOC emissions greater than twenty-five (25) tons per year, is still otherwise subject to the requirements of 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving); therefore, the requirements of 326 IAC 8-1-6 do not apply to this revision and are not included in the permit.

See Appendix A.1 of this document for the detailed calculations.

- (c) 326 IAC 8-5-2 (Asphalt paving rules)
Any paving application made after January 1, 1980, is subject to the requirements of 326 IAC 8-5-2. Pursuant to this rule, no person shall cause or allow the use of cutback asphalt or asphalt emulsion containing more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:

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

This is an existing requirement for this source.

- (d) 326 IAC 8-6-1 (Organic Solvent Emission Limitations)
The existing cold-mix asphalt production and storage piles, a continued source of potential VOC emissions greater than one hundred (100) tons per year, is still subject to the requirements of 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving). Additionally, this source has elected to continue to limit their VOC emissions to less than one hundred (100) tons per year under 326 IAC 2-8 (FESOP). Therefore, the requirements of 326 IAC 8-6-1 do not apply to this revision and are not included in the permit.

See Appendices A.1 and A.2 of this document for the detailed emissions calculations.

- (e) 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)
This existing stationary source is located in Steuben County and not Lake, Porter, and/or LaPorte Counties. Therefore, pursuant to 326 IAC 8-7-2(a), the requirements of 326 IAC 8-7 do not apply to this revision and are not included in the permit.

- (f) There are no other 326 IAC 8 Rules applicable to this revision.

Compliance Determination, Monitoring and Testing Requirements
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- (a) The compliance determination and monitoring requirements applicable to this proposed revision are as follows:

- (1) Record keeping and reporting of the fuel characteristics (i.e., sulfur, chlorine, ash, and lead content), fuel usage, and SO₂ and HCl emissions will be used to document the compliance status with the SO₂, and single (HCL) and total HAP emission limitations.

This is an existing requirement for this source.

- (2) Record keeping and reporting of the cold-mix asphalt liquid binder characteristics (i.e., VOC solvent content), VOC solvent usage rate, and VOC emissions will be used to document the compliance status with the FESOP VOC emission limitations.

This is an existing requirement for this source.

- (3) The existing drum dryer/mixer burner, baghouse stack exhaust, and the material processing and handling, crushing, screening, conveying, and material transfer points have applicable compliance monitoring conditions as follows:

Emission Unit and Control Device	Parameter	Frequency	Range	Excursions and Exceedances
Dryer/mixer baghouse stack exhaust ^(A)	Visible Emissions	Once per day	normal/abnormal	Response Steps
Associated conveyors, screens, and material transfer points ^(B)	Visible Emissions	Once per day	normal/abnormal	Response Steps

- (A) This monitoring condition is necessary because the baghouse used in conjunction with the drum dryer/mixer must operate properly to ensure continued compliance with 40 CFR 60, Subpart I, 326 IAC 2-8 (FESOP), 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), and the limits that render 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-2 (PSD), not applicable.

This is a change from requiring both visible emissions and pressure drop. IDEM has determined that only one (1) form of monitoring is necessary to confirm compliance with the permits limits and requirements.

- (B) This monitoring condition is necessary to ensure compliance with 40 CFR 60, Subpart I, 326 IAC 2-8 (FESOP), and 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes).

This is a new requirement for this source.

- (b) There are no specific testing requirements applicable to this proposed revision.

All other existing compliance determination, monitoring, and testing requirements will not change as a result of this revision. The source shall continue to comply with the applicable requirements and permit conditions as contained in the FESOP.

Proposed Changes

The following changes listed below are due to the proposed revision.

1. **Section D.1 - Emission Limitations and Standards**
Condition D.1.3 - FESOP Limits: Sulfur Dioxide (SO₂), renamed FESOP Limits: SO₂ and HAPs, subsection (b) - Single Fuel And Slag Usage Limitations, the re-refined waste oil usage limit has been revised. Additionally, subsections (a) - Fuel And Slag Content Limits and (c) - Multiple Fuel Usage Limitations, have been revised to include the chlorine content and hydrogen chloride emissions limitations for the re-refined waste oil from Condition D.1.4 - Hazardous Air Pollutants (HAPs). Furthermore, and the chlorine content and hydrogen chloride emissions limitations have been revised to reflect the higher chlorine content requested by API. Also, the new ash and lead content limitations have been added to subsection (a) - Fuel And Slag Content Limits, for the re-refined waste oil. Finally, existing Condition D.1.4 - Hazardous Air Pollutants (HAPs) has been deleted.
2. **Section D.1 - Compliance Determination Requirements**
 - A. Condition D.11 - Multiple Fuel Usage / Sulfur Dioxide (SO₂) Emissions (renumbered and renamed as D.1.9 - Multiple Fuel Usage / SO₂ & HCL Emissions), has been revised to include a hydrogen chloride (HCL) emissions calculation to assist API in determining compliance with the HCL emissions limit contained in Condition D.1.3 - Multiple Fuel Usage Limits, subsection (c) - Single Fuel And Slag Usage Limitations.
 - B. Condition D.1.12 - Hydrogen Chloride Emissions and Chlorine Content (renumbered as D.1.10), has been revised to reflect the higher chlorine content requested by API.
3. **Section D.1 - Record Keeping and Reporting Requirements**
Condition D.1.16 - Record Keeping Requirements (renumbered as D.1.13), has been revised to include recordkeeping requirements to assist API in documenting the compliance status with the new ash and lead content limits
4. **Section D.2 - Emission Limitations and Standards**
Condition D.2.1 - Volatile Organic Compounds (VOC) (renamed PSD Minor and FESOP Limits: VOC and HAPs), subsections (a) and (c) have been revised to reflect the reduction in in cold mix asphalt production requested by API to accommodate the increase in the re-refined waste oil chlorine content limit. Additionally, new subsections (d) and (e) have been added to include HAP content limits for the cold-mix asphalt liquid binders.
5. **Section D.2 - Compliance Determination Requirements**
A new Condition D.2.3 - Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) has been added to assist API in determining compliance with the emissions limits in the permit.
6. **Section D.2 - Record Keeping and Reporting Requirements**
Condition D.2.3 - Record Keeping Requirements (renumbered as D.2.4), has been revised to include reference to the new HAP content limits.
7. **Reporting Forms**
The existing FESOP Quarterly Report Forms for Single Fuel usages, Multiple fuel usages, and Cold-mix (stockpile mix) asphalt manufacturing operations, located at the back of the permit, have been revised to reflect the changes made to the VOC emissions and usage limitations. Additionally, reference to the new HCL emissions limitation was added, and a column for reporting the HCL emissions was added to the table on the second page of the form.

Additionally, IDEM, OAQ has made the following revisions to the permit in order to update the language to match the most current version of the applicable rule, to eliminate redundancy within the permit, and to provide clarification regarding the requirements of these conditions.

1. **Section A.2 - Emission Units and Pollution Control Equipment Summary**
A description of the cold-mix cutback asphalt production and storage piles has been added to the A Section of the permit.
2. **Section B - Permit Renewal**
IDEM, OAQ has decided to state which rule establishes the authority to set a deadline for the Permittee to submit additional information. Therefore, Section B - Permit Renewal has been revised.
3. **Sections B - Preventive Maintenance Plan and Operational Flexibility**
On October 27, 2010, the Indiana Air Pollution Control Board issued revisions to 326 IAC 2. These revisions resulted in changes to the rule cites listed in the permit. These changes are not changes to the underlining provisions. The change is only to site of these rules in Section B - Operational Flexibility. Additionally, IDEM, OAQ has clarified the rule cites for the Preventive Maintenance Plan.
4. **Section C - Overall Source Limit**
Due to the June 23, 2014 United States Supreme Court Ruling, IDEM, OAQ cannot consider Greenhouse Gas (GHG) emissions to determine operating permit applicability or PSD applicability to a source or modification. Therefore, IDEM, OAQ has removed all GHG related permit requirements.
5. **Section C - Compliance Monitoring Requirements**
IDEM is changing the Section C - Compliance Monitoring Condition to more clearly describe when new monitoring for new and existing units must begin.
6. **Section C - Instrument Specifications**
IDEM has clarified Section C - Instrument Specifications to indicate that the analog instrument must be capable of measuring the parameters outside the normal range.
7. **Section C - General Record Keeping Requirements**
IDEM, OAQ has clarified the Permittee's responsibility with regards to record keeping. Additionally, IDEM has added "where applicable" to the lists in Section C - General Record Keeping Requirements to more closely match the underlining rule.
8. **Section C - General Reporting Requirements**
IDEM, OAQ has clarified the interaction of the Quarterly Deviation and Compliance Monitoring Report and the Emergency Provisions.
9. **Section D.1 - Emission Limitations and Standards**
 - A. Condition D.1.2 - FESOP Limits: PM10, PM2.5, and CO, renamed FESOP Limits: PM10, PM2.5, VOC, and CO, has been revised to more clearly indicate the rules that are being addressed by the limits in the condition and to include the 326 IAC 8-1-6 BACT avoidance limits for the dryer/mixer from Condition D.1.5 - Volatile Organic Compounds (VOC). Additionally, Condition D.1.5 - Volatile Organic Compounds (VOC) has been deleted.
 - B. Condition D.1.3 - FESOP Limits: SO2 and HAPs, has been revised to more clearly indicate the rules that are being addressed by the limits in the condition.

10. **Sections D.1 - Compliance Determination and Monitoring Requirements**

- A. After discussions with EPA, OAQ decided to add a rule cite for the Compliance Determination Requirements subsection title in the D Sections. The addition of this rule cite is to satisfy EPA's concerns. Additionally, the FESOP Compliance Monitoring Requirements cite have been changed from 326 IAC 2-8-4 and 326 IAC 2-8-5(a)(1) to 326 IAC 2-8-4(1) and 326 IAC 2-8-5(a)(1) to match the other rule cites.
- B. Existing Condition D.1.8 (renumbered as D.1.6), has been revised to remove the multi-compartment baghouse bag failure requirement. This requirement has been moved to Condition D.1.15 - Broken or Failed Bag Detection (renumbered as D.1.12).
- C. Conditions D.1.11 - Multiple Fuel Usage / SO₂ & HCL Emissions (renumbered as D.1.9), and D.1.12 - Hydrogen Chloride Emissions and Chlorine Content (renumbered as D.1.10), have been revised for clarity.
- D. Existing Condition D.1.13 - Visible Emissions Notations (renumbered as D.1.11), has been revised to include reference to the conveyors, screens, and material transfer points, since monitoring is required to assure compliance with the requirements of 40 CFR Subpart I, 326 IAC 2-7, and 326 IAC 6-3.
- E. Existing Condition D.1.14 - Parametric Monitoring has been deleted. IDEM has determined that only one (1) form of monitoring is necessary to confirm compliance with the permits limits and requirements.
- F. IDEM, OAQ, has decided to clarify Condition D.14 - Parametric Monitoring (renumbered as D.1.11). IDEM, OAQ has revised the language in this condition to clarify when a range should be modified due to test results.
- G. Condition D.1.15 - Broken or Failed Bag Detection (renumbered as D.1.12) has been revised to include the multi-compartment baghouse bag failure requirement from Condition D.1.8 - Particulate Control (renumbered as D.1.6).

11. **Section D.1 - Record Keeping and Reporting Requirements**

Condition D.1.16 - Record Keeping Requirements (renumbered as D.1.13), has been revised for clarity, and to consolidate the #2 fuel oil and re-refined waste oil recordkeeping requirements. Additionally, a recordkeeping requirement has been added to document the compliance status with Condition D.1.11(b) - Visible Emissions Notations for the conveyors, screens, and material transfer points. Finally, the recordkeeping requirement previously associated with existing Condition D.1.14 - Parametric Monitoring, has been removed.

12. **Section D.2 - Record Keeping and Reporting Requirements**

Condition D.2.3 - Record Keeping Requirements (renumbered as D.2.4), has been revised for clarity.

13. **Section E - NSPS and NESHAPS Requirements**

The existing Section E - New Source Performance Standards (NSPS) Requirements language has been replaced with a standardized version of the E Section. Additionally, IDEM, OAQ, has clarified that a copy of the Federal Rule would be attached 'to the operating permit' rather than 'to this permit'.

14. **Reporting Forms**

The following changes have been made to the forms at the end of the permit:

- A. 326 IAC 2-8-12 states that the Permittee must notify IDEM within "four (4) daytime business hours" for emergencies. The FESOP Emergency Occurrence Report Form

lacked the word 'daytime'. 'Daytime' is being added to be consistent with the rule. In addition, the existing rule cite is being corrected to refer to the FESOP rules.

- B. The FESOP Quarterly Report forms have been modified to include a line for the "Quarter" of the year and to remove the numbered months. The Permittee should state which quarter and months are being reported.
- C. The FESOP Quarterly Report forms for Blast Furnace Slag and Steel Slag Usage, Single Fuel usages, Multiple fuel usages, and Cold-mix (stockpile mix) asphalt manufacturing operations, located at the back of the permit, have been merged into one (1), three (3) page reporting form for clarity and ease of reporting.
- D. IDEM, OAQ has clarified the interaction of the Quarterly Deviation and Compliance Monitoring Report, Section B - Emergency Provisions and Section C-General Reporting. Additionally, the phrase "of this permit" has been added to the paragraph of the Quarterly Deviation and Compliance Monitoring Report to match the underlying rule.

Unaffected permit conditions have been re-numbered, and permit condition references and the Table of Contents have been updated, as applicable. The Permit has been revised as follows, with deleted language shown as ~~strikeouts~~ and new language **bolded**.

SECTION A SOURCE SUMMARY

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

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

(e) Cold-mix cutback asphalt production and storage piles.

SECTION B GENERAL CONDITIONS

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

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

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(~~4240~~). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b)**(1) and (c)** ~~through (d)~~. The Permittee shall make such records available, upon reasonable request, for public review.

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

- (b) Emission Trades [326 IAC 2-8-15**(be)**]

* * * * *

- (c) Alternative Operating Scenarios [326 IAC 2-8-15**(cd)**]

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

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SECTION C SOURCE OPERATION CONDITIONS

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

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

- (a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM) and ~~greenhouse gases (GHGs)~~, from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

* * * * *

- ~~(4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂-equivalent emissions (CO₂e) per twelve (12) consecutive month period.~~

* * * * *

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

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

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

* * * * *

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

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

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

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* * * * *

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

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. **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 FESOP.

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.

* * * * *

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

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. **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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

* * * * *

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

* * * * *

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

* * * * *

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

* * * * *

D.1.2 FESOP Limits: PM10, PM2.5, VOC, and CO [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 8-1-6]

Pursuant to 326 IAC 2-8-4, and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable, the Permittee shall comply with the following:

* * * * *

- (d) **VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.**
- (de) CO emissions from the dryer/mixer shall not exceed 0.13 pounds of CO per ton of asphalt produced.

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

Additionally, compliance with the limit in condition D.1.2(d), shall limit VOC potential emissions from the dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 (Best Available Control Technologies (BACT)) not applicable.

D.1.3 FESOP Limits: ~~Sulfur Dioxide (SO₂)~~ and HAPs [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, the Permittee shall comply with the following:

(a) Fuel and Slag Content Limits

* * * * *

- (3) **The ash content of the re-refined waste oil shall not exceed 3.0 percent by weight.**
- (4) **The chlorine content of the re-refined waste oil shall not exceed 0.4 percent by weight.**
- (5) **The lead content of the re-refined waste oil shall not exceed 0.010 percent by weight.**
- (6) **Hydrogen chloride emissions from the dryer/mixer shall not exceed 0.0264 pounds of HCl per gallon of re-refined waste oil burned.**
- (37) The sulfur content of the blast furnace slag shall not exceed 1.5 percent by weight.
- (48) SO2 emissions from the dryer/mixer shall not exceed 0.74 pounds of SO2 per ton of Blast Furnace Slag processed.
- (59) The sulfur content of the steel slag shall not exceed 0.66 percent by weight.
- (610) SO2 emissions from the dryer/mixer shall not exceed 0.0014 pounds of SO2 per ton of steel slag processed.

(b) Single Fuel and Slag Usage Limitations:

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

* * * * *

- (2) Re-refined waste oil usage shall not exceed ~~931,523~~ **698,642** gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

* * * * *

(c) Multiple Fuel Usage Limitations

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

- (1) SO₂ emissions from the dryer/mixer burner shall not exceed 96.78 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) **HCL emissions from the dryer/mixer burner shall not exceed 9.22 tons per twelve (12) consecutive month period with compliance determined at the end of each month.**

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

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

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

- ~~(a) Hydrogen Chloride emissions from the dryer/mixer shall not exceed 0.0132 pounds of HCl per gallon of re-refined waste oil burned.~~
- ~~(b) The chlorine content of the re-refined waste oil shall not exceed 0.2 percent by weight.~~

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

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

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

- ~~(a) The hot mix asphalt production rate shall not exceed 1,400,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.~~
- ~~(b) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.~~

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

D.1.46 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

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D.1.57 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.1.68 Particulate Control

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

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

D.1.79 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

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D.1.840 Sulfur Dioxide Emissions and Sulfur Content

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D.1.941 Multiple Fuel Usage / ~~Sulfur Dioxide (SO₂)~~ & **HCL** Emissions

* * * * *

(a) Sulfur Dioxide (SO₂) emissions calculation from Multiple Fuel Usage

* * * * *

Where:

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

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

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

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

Emission Factors:

E_l = 0.00002 pounds per gallon of liquefied petroleum fuel oil

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

E_w = 0.21 pounds per gallon of ~~R~~re-refined waste fuel-oil

(b) Hydrogen Chloride (HCL) emissions calculation

$$\text{HCL} = \frac{W(E_w)}{2000 \text{ lbs/ton}}$$

where:

HCL = tons of hydrogen chloride (HCL) emissions for a twelve (12) month consecutive period

W = gallons of re-refined waste oil used in the last twelve (12) months.

Emission Factor

$E_w = 0.0264$ lbs/1000 gallons of re-refined waste oil.

D.1.1042 Hydrogen Chloride Emissions and Chlorine Content

To demonstrate compliance with condition ~~CD.1.43(a)(3)~~, that the chlorine content of the fuel used for the aggregate dryers does not exceed 0.42 percent by weight of chlorine, when operating on **re-refined** waste oil, by providing vendor analysis of fuel delivered accompanied by a vendor certification or by conducting a stack testing.

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

D.1.1143 Visible Emissions Notations

- (a) Visible emission notations of the dryer/mixer stack exhaust (SV-1) shall be performed at least once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) Visible emission notations of the conveyors, screens, and material transfer points shall be performed at least once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.**
- (bc) 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.
- (ed) 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.
- (de) 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.
- (ef) If abnormal emissions is are observed, the Permittee shall take reasonable response steps. Section C- Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.14 Parametric Monitoring

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

* * * * *

D.1.1245 Broken or Failed Bag Detection

In the event that bag failure has been observed:

* * * * *

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

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

D.1.1346 Record Keeping Requirements

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- (b) To document the compliance status with **the fuels and slag usage limitations contained in Conditions D.1.3, D.1.4, D.1.9, and D.1.106**, the Permittee shall maintain records in accordance with (1) through (7) below. Records maintained for (1) through (7) shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3, **D.1.4, D.1.9, and D.1.106**, and shall be available no later than thirty (30) days after the end of each compliance period.

* * * * *

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

* * * * *

- (4) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
- (i) Fuel supplier certifications;
 - (ii) The name of the fuel supplier; and
 - (iii) A statement from the fuel supplier that certifies the sulfur content of the **#2 fuel oil and re-refined waste oil, and the ash, chlorine, and lead content of the re-refined waste oil.**

* * * * *

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

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

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

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

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

- ~~(i) The name of the fuel supplier; and~~
- ~~(ii) A statement from the fuel supplier that certifies the chlorine content of the re-refined waste oil.~~
- (dc) To document the compliance status with Condition D.1.11(a)43, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack exhaust (**SV-1**) at least once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the plant did not operate that day).
- (d) To document the compliance status with Condition D.1.11(b), the Permittee shall maintain records of visible emission notations of the conveyors, screens, and material transfer points at least once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the plant did not operate that day).**
- ~~(e) To document the compliance status with Condition D.1.14, the Permittee shall maintain a daily record of the pressure drop across the baghouse controlling the dryer/mixer. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g., the dryer/mixer did not operate that day).~~
- (fe) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.1417 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.1(a), D.1.2(a), D.1.3(b), D.1.3(c), and D.1.95(a), shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require the certification that meet the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.2 FACILITY OPERATION CONDITIONS

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

- (e) Cold-mix cutback asphalt production and storage piles.

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

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

D.2.1 PSD Minor and FESOP Limits: Volatile Organic Compounds (VOC) and HAPs [326 IAC 2-2][326 IAC 2-8-4][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, the Permittee shall comply with the following:

- (a) VOC emissions from the sum of the binders shall not exceed ~~54.6062.8~~ **54.6062.8** tons per twelve (12) consecutive month period with compliance determined at the end of each month.

* * * * *

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

- (1) The amount of VOC solvent used in rapid cure cutback asphalt shall not exceed ~~57.4766.4~~ **57.4766.4** tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) The amount of VOC solvent used in medium cure cutback asphalt shall not exceed ~~77.9989.7~~ **77.9989.7** tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (3) The amount of VOC solvent used in slow cure cutback asphalt shall not exceed ~~218.39251.4~~ **218.39251.4** tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (4) The VOC solvent allotments in (1) through (3) above shall be adjusted when more than one type of binder is used per twelve (12) consecutive month period with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment factor listed in the table that follows.

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

where: year = each twelve (12) month consecutive period

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

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

* * * * *

D.2.3 Record Keeping Requirements

- (a) To document the compliance status with Condition D.2.1 **and D.2.2**, the Permittee shall ~~record and maintain complete monthly records in accordance with the information listed in items (1) through (4) below.~~ **Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with each of the limits established in Conditions D.2.1 and D.2.2:**

* * * * *

* * * * *

D.2.4 Reporting Requirements

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

* * * * *

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description [326 IAC 2-8-4(10)]: **Hot-mix Asphalt Plants**

- (a) One (1) hot asphalt drum mix dryer, constructed in 2007, with a maximum capacity of 200 tons per hour of raw material, equipped with one (1) 50 million British thermal units (MMBtu) per hour liquefied petroleum fuel fired burner using #2 fuel oil or re-refined waste oil as a backup fuels, processing blast furnace slag and steel slag in the aggregate mixer, equipped with one (1) jet pulse baghouse for particulate matter control, exhausting through one (1) stack, identified as SV-1; [This source does not use shingles in the aggregate mixer.]
- (b) One (1) 25,000 gallon asphalt storage tank;
- (c) One (1) 12,000 gallon asphalt storage tank;
- (d) One (1) 12,000 gallon No. 2 fuel oil storage tank.

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

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

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

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

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, **for the emission unit(s) listed above**, except as otherwise specified in 40 CFR 60, Subpart I.
- (b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

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

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

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

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

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

In order to document the compliance status with Condition E.1.2, the Permittee shall perform the stack-testing required under NSPS-40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner to document compliance with Condition E.1.2. These tests shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

* * * * *

EMERGENCY OCCURRENCE REPORT

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

This form consists of 2 pages

Page 1 of 2

<input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) 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 2-8-122-7-16

* * * * *

FESOP Quarterly Report

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

QUARTER: _____ **YEAR:** _____

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

* * * * *

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

FESOP Quarterly Report - Fuel, Slag, & Cold-mix Asphalt

Source Name: API Construction Corp
Source Address: 225 South CR 600 W, Angola, Indiana 46703
FESOP Permit No.: F 151-30477-00064
Facility: Dryer/mixer burner
Parameter: Fuel & Slag Usage / SO₂ and HCL emissions
Emission Limits: Sulfur dioxide (SO₂) emissions shall not exceed 96.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.9(a).
Hydrogen Chloride (HCL) emissions shall not exceed 9.22 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.9(b).

Fuel & Slag Limits: When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, fuel and slag usage shall not exceed the following:

Fuel Type (Units)	Fuel Usage Limit (per 12 consecutive month period)
No. 2 Distillate Fuel Oil (gallons)	2,700,105
Re-Refined Waste Oil (gallons)	698,642
Blast Furnace Slag (tons)	2,500
Steel Slag (tons)	2,500

Facility: Cold-mix Asphalt Production
Parameter: Binder Usage / VOC Emissions
Emission Limits: Volatile Organic Compounds (VOC) emissions from the sum of the binders shall not exceed 54.60 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Type of Binder	Binder Usage Limit (per 12 consecutive month period)
Cutback Asphalt Rapid Cure	57.47
Cutback Asphalt Medium Cure	77.99
Cutback Asphalt Slow Cure	218.39

FESOP Quarterly Report - Fuel & Slag Usage / SO2 and HCL emissions

QUARTER: _____ YEAR: _____

Month	Types: Fuel / Slag (units)	Column 1	Column 2	Column 1 + Column 2	Equation Results	
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	Sulfur Dioxide (SO2) Emissions (tons per 12 months)	Hydrogen Chloride (HCL) Emissions (tons per 12 months)
	No. 2 Fuel Oil (gallons)					
	Liquefied Petroleum Fuel (gallons)					
	Re-Refined Waste Oil (gallons)					
	Blast Furnace Slag (tons)					
	Steel Slag Usage (tons)					
	No. 2 Fuel Oil (gallons)					
	Liquefied Petroleum Fuel (gallons)					
	Re-Refined Waste Oil (gallons)					
	Blast Furnace Slag (tons)					
	Steel Slag Usage (tons)					
	No. 2 Fuel Oil (gallons)					
	Liquefied Petroleum Fuel (gallons)					
	Re-Refined Waste Oil (gallons)					
	Blast Furnace Slag (tons)					
	Steel Slag Usage (tons)					

No deviation occurred in this reporting period.

Submitted by: _____ Date: _____

Deviation/s occurred in this reporting period.

Title / Position: _____ Phone: _____

Deviation has been reported on: _____

Signature: _____

FESOP Quarterly Report - Cold-mix Asphalt Binder Usage / VOC Emissions

QUARTER: _____ YEAR: _____

Month	Binder Type	Column 1	Column 2	Column 1 + Column 2	Equation
		Solvent Usage (tons) This Month	Solvent Usage (tons) Previous 11 Months	Solvent Usage (tons) 12 Month Total	VOC Emissions (tons per 12 months)
	Cutback asphalt rapid cure liquid binder				
	Cutback asphalt medium cure liquid binder				
	Cutback asphalt slow cure liquid binder				
	Cutback asphalt rapid cure liquid binder				
	Cutback asphalt medium cure liquid binder				
	Cutback asphalt slow cure liquid binder				
	Cutback asphalt rapid cure liquid binder				
	Cutback asphalt medium cure liquid binder				
	Cutback asphalt slow cure liquid binder				

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

where: year = each twelve (12) month consecutive period

Type of Binder	Adjustment Factor
Cutback Asphalt Rapid Cure	1.053
Cutback Asphalt Medium Cure	1.429
Cutback Asphalt Slow Cure	4.0

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

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

* * * * *

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

FESOP Quarterly Report

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

YEAR: _____

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

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

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

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

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

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

YEAR: _____

Fuel Type: _____

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

_____ No deviation occurred in this quarter.

_____ Deviation/s occurred in this quarter.

_____ Deviation has been reported on: _____

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

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

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

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

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

QUARTER: _____ YEAR: _____

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

- No deviation occurred in this quarter.

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

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

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

FESOP Quarterly Report - Single Liquid Binder VOC Solvent

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

YEAR: _____

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

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

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

* * * * *

QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

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

Months: _____ to _____ Year: _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. **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 **A** "No deviations occurred this reporting period"Ⓜ.

* * * * *

No other changes have been made to the permit as a result of this revision.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on October 19, 2016. Additional information was received from October 24, 2016 through November 15, 2016.

The operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Permit Revision No. 151-37772-00064. The staff recommends to the Commissioner that this FESOP Significant Permit Revision be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Ms. Hannah Desrosiers at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-9327 or toll free at 1-800-451-6027 extension 3-9327.
- (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 - Drum mix

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

Asphalt Plant Maximum Capacity - Drum Mix

Maximum Hourly Asphalt Production =	200	ton/hr								
Maximum Annual Asphalt Production =	1,752,000	ton/yr								
Maximum Annual Blast Furnace Slag Usage =	735,840	ton/yr	1.50	% sulfur						
Maximum Annual Steel Slag Usage =	735,840	ton/yr	0.66	% sulfur						
Maximum Dryer Fuel Input Rate =	50.0	MMBtu/hr								
Natural Gas Usage =	0	MMCF/yr								
No. 2 Fuel Oil Usage =	3,128,571	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage =	0	gal/yr, and	0	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0	% sulfur						
Propane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Liquefied Petroleum Fuel Usage =	4,496,920	gal/yr, and	0.22	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	3,128,571	gal/yr, and	1.40	% sulfur	3.00	% ash	0.400	% chlorine,	0.010	% lead
Diesel Fuel Usage - Generator < 600 HP =	0	gal/yr, and								
Diesel Fuel Usage - Generator > 600 HP =	0	gal/yr	0	% sulfur						
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production								
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production								
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production								
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production								
Unlimited CO Dryer/Mixer Emission Factor =	0.13	lb/ton of asphalt production								
Unlimited 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						Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP
Ducted Emissions									
Dryer Fuel Combustion (worst case)	300.34	239.34	239.34	321.93	33.73	2.47	18.89	42.67	41.30 (hydrogen chloride)
Dryer/Mixer (Process)	24,528.00	5,694.00	1,314.00	50.81	48.18	28.03	113.88	9.34	2.72 (formaldehyde)
Dryer/Mixer Slag Processing (worst case)	0	0	0	272.26	0	0	0	0	0
Hot Oil Heater Fuel Combustion/Process (worst case)	0.06	0.10	0.10	2.22	0.63	0.01	0.16	0.002	0.002 (hexane)
Diesel-Fired Generator < 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000 (formaldehyde)
Diesel-Fired Generator > 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000 (benzene)
Worst Case Emissions*	24,528.06	5,694.10	1,314.10	596.41	48.81	28.04	114.04	42.68	41.30 (hydrogen chloride)
Fugitive Emissions									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.97	0.97	0.97	0	0	15.01	2.52	0.25	0.08 (formaldehyde)
Material Storage Piles	1.46	0.51	0.51	0	0	0	0	0	0
Material Processing and Handling	5.66	2.68	0.41	0	0	0	0	0	0
Material Screening and Conveying	23.30	8.16	8.16	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	62.20	15.85	1.59	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	29,476.52	0	7,688.57	2,652.89 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0.00	0.00 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	negl	0
Total Fugitive Emissions	93.59	28.17	11.63	0	0.00	29,491.53	2.52	7,688.82	2,652.89 (xylenes)
Totals Unlimited/Uncontrolled PTE	24,621.65	5,722.27	1,325.73	596.41	48.81	29,519.57	116.56	7,731.49	2,652.89 (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 Slag Processing**

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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

Maximum Annual Blast Furnace Slag Usage =

735,840

 ton/yr

1.50

 % sulfur
 Maximum Annual Steel Slag Usage =

735,840

 ton/yr

0.66

 % sulfur

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

Methodology

The maximum annual slag usage was provided by the source.

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

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

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

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

Abbreviations

SO2 = Sulfur Dioxide

Appendix A.1: Unlimited Emissions Calculations

**Hot Oil Heater
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: API Construction Corporation
Source Location: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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

Unlimited/Uncontrolled Emissions

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	0.000	0.063	0.06
PM10/PM2.5	7.6	3.3	0.000	0.103	0.10
SO2	0.6	71.0	0.000	2.221	2.22
NOx	100	20.0	0.000	0.626	0.63
VOC	5.5	0.20	0.000	0.006	0.01
CO	84	5.0	0.000	0.156	0.16
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	0.0E+00	1.75E-05	1.8E-05
Beryllium	1.2E-05	4.2E-04	0.0E+00	1.31E-05	1.3E-05
Cadmium	1.1E-03	4.2E-04	0.0E+00	1.31E-05	1.3E-05
Chromium	1.4E-03	4.2E-04	0.0E+00	1.31E-05	1.3E-05
Cobalt	8.4E-05		0.0E+00		0.0E+00
Lead	5.0E-04	1.3E-03	0.0E+00	3.94E-05	3.9E-05
Manganese	3.8E-04	8.4E-04	0.0E+00	2.63E-05	2.6E-05
Mercury	2.6E-04	4.2E-04	0.0E+00	1.31E-05	1.3E-05
Nickel	2.1E-03	4.2E-04	0.0E+00	1.31E-05	1.3E-05
Selenium	2.4E-05	2.1E-03	0.0E+00	6.57E-05	6.6E-05
Benzene	2.1E-03		0.0E+00		0.0E+00
Dichlorobenzene	1.2E-03		0.0E+00		0.0E+00
Ethylbenzene					0.0E+00
Formaldehyde	7.5E-02	6.10E-02	0.0E+00	1.91E-03	1.9E-03
Hexane	1.8E+00		0.0E+00		0.0E+00
Phenol					0.0E+00
Toluene	3.4E-03		0.0E+00		0.0E+00
Total PAH Haps	negl		negl		0.0E+00
Polycyclic Organic Matter		3.30E-03		1.03E-04	1.0E-04

Total HAPs = 0.0E+00 2.2E-03 0.002
Worst Single HAP = 0.0E+00 1.9E-03 1.9E-03
 (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 = Polyaromatic Hydrocarbon

**Appendix A.1: Unlimited Emissions Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)**

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

Output Horsepower Rating (hp)	0.0
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	0
Maximum Diesel Fuel Usage (gal/yr)	0

	Pollutant						
	PM ²	PM10 ²	direct PM2.5 ²	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Emission Factor in lb/kgal ¹	43.07	43.07	43.07	40.13	606.85	49.22	130.77
Potential Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

¹ The AP-42 Chapter 3.3-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

¹Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

²PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							Total PAH HAPs ³
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/MMBtu	9.33E-04	4.09E-04	2.85E-04	3.91E-05	1.18E-03	7.67E-04	9.25E-05	1.68E-04
Emission Factor in lb/kgal ⁴	1.28E-01	5.60E-02	3.91E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Potential Emission in tons/yr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

³PAH = Polycyclic Aromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

⁴The AP-42 Chapter 3.3-1 emission factors in lb/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁴Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Potential Emission of Total HAPs (tons/yr)	0.00E+00
Potential Emission of Worst Case HAPs (tons/yr)	0.00E+00

Green House Gas Emissions (GHG)

	Pollutant		
	CO2 ⁵	CH4 ⁶	N2O ⁶
Emission Factor in lb/hp-hr	1.15	NA	NA
Emission Factor in kg/MMBtu	NA	0.003	0.0006
Emission Factor in lb/kgal	22,512.07	0.91	0.18
Potential Emission in tons/yr	0.00	0.000	0.000

⁵The AP-42 Chapter 3.3-1 emission factor in lb/hp-hr was converted to lb/kgal emission factor using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁵Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

⁶The 40 CFR 98 Subpart C emission factors in kg/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁶Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kg) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Summed Potential Emissions in tons/yr	0.00
CO2e Total in tons/yr	0.00

Methodology

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Maximum Diesel Fuel Usage (gal/yr) = Potential Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)

Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2 and have been converted to lb/kgal

CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal

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

Potential Emissions (tons/yr) = [Maximum Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 gal/kgal) / (2,000 lb/ton)

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

Appendix A.1: Unlimited Emissions Calculations
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

Output Horsepower Rating (hp)	0.0
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	0
Maximum Diesel Fuel Usage (gal/yr)	0

Sulfur Content (S) of Fuel (% by weight) 0.00

	Pollutant						
	PM	PM10 ²	direct PM2.5 ²	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04			0.00E+00 (.00809S)	2.40E-02	7.05E-04	5.50E-03
Emission Factor in lb/MMBtu		0.0573	0.0573				
Emission Factor in lb/kgal ¹	13.70	7.85	7.85	0.00	469.82	13.80	107.67
Potential Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

¹The AP-42 Chapter 3.4-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

²Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

²Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

²Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Hazardous Air Pollutants (HAPs)

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs ³
Emission Factor in lb/MMBtu	7.76E-04	2.81E-04	1.93E-04	7.89E-05	2.52E-05	7.88E-06	2.12E-04
Emission Factor in lb/kgal ⁴	1.06E-01	3.85E-02	2.64E-02	1.08E-02	3.45E-03	1.08E-03	2.91E-02
Potential Emission in tons/yr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

³PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

⁴Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁴Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Potential Emission of Total HAPs (tons/yr)	0.00E+00
Potential Emission of Worst Case HAPs (tons/yr)	0.00E+00

Green House Gas Emissions (GHG)

	Pollutant		
	CO2 ⁵	CH4 ^{5,6}	N2O ⁷
Emission Factor in lb/hp-hr	1.16	6.35E-05	NA
Emission Factor in kg/MMBtu	NA	NA	0.0006
Emission Factor in lb/kgal	22,707.83	1.24	0.18
Potential Emission in tons/yr	0.00	0.00	0.00

⁵The AP-42 Chapter 3.4-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁵Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

⁶According to AP-42, Table 3.4-1, TOC (as CH4) is 9% methane by weight. As a result, the lb/hp-hr emission factor for TOC (as CH4) in AP-42 has been multiplied by 9% to determine the portion that is emitted as methane.

⁷The 40 CFR 98 Subpart C emission factors in kg/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁷Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kg) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Summed Potential Emissions in tons/yr	0.00
CO2e Total in tons/yr	0.00

Methodology

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Maximum Diesel Fuel Usage (gal/yr) = Potential Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 and have been converted to lb/kgal.

N2O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal.

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

Potential Emissions (tons/yr) = [Maximum Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 ga/kgal) / (2,000 lb/ton)

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O

Potential Emission ton/yr x N2O GWP (298).

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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

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

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	0.46	0.51	NA	0.97
Organic PM	3.4E-04	2.5E-04	NA	0.30	0.222	NA	0.52
TOC	0.004	0.012	0.001	3.64	10.68	0.964	15.3
CO	0.001	0.001	3.5E-04	1.18	1.034	0.308	2.52

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

PM/HAPs	0.021	0.025	0	0.046
VOC/HAPs	0.054	0.136	0.014	0.204
non-VOC/HAPs	2.8E-04	2.9E-05	7.4E-05	3.8E-04
non-VOC/non-HAPs	0.26	0.15	0.07	0.49
Total VOCs	3.42	10.68	0.9	15.0
Total HAPs	0.08	0.16	0.014	0.25
Worst Single HAP				0.078 (formaldehyde)

Methodology

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

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

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

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

Total PM/PM10/PM2.5 Ef = $0.000181 + 0.00141(-V)e^{(0.0251)(T+460)-20.43}$

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

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

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

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

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

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

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

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

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

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

Abbreviations

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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

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

Methodology

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

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%	3.42	10.68	0.91	15.01
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	2.4E-01	2.8E-02	6.3E-02	0.327
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.7E-03	5.9E-03	4.4E-04	0.008
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	2.6E-02	1.2E-01	6.8E-03	0.150
Total non-VOC/non-HAPS					7.30%	1.40%	0.266	0.149	0.070	0.49
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.9E-03	3.4E-03	5.0E-04	5.8E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	3.5E-04	5.2E-04	9.3E-05	9.7E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.8E-03	4.2E-03	4.7E-04	6.4E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	4.7E-04	1.7E-03	1.3E-04	2.3E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	7.7E-06	4.3E-04	2.0E-06	4.4E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	5.5E-04	2.5E-03	1.4E-04	3.1E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	4.0E-03	0	1.1E-03	5.1E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	1.0E-02	4.1E-03	2.7E-03	0.017
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	3.2E-03	7.4E-02	8.5E-04	0.078
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	5.5E-03	1.1E-02	1.4E-03	0.018
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	6.6E-05	3.3E-05	1.7E-05	1.2E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.9E-05	0	2.9E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	2.7E-04	5.8E-04	7.0E-05	9.1E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.8E-04	0	7.4E-05	3.5E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	7.7E-03	6.6E-03	2.0E-03	0.016
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	4.7E-05	0	1.3E-05	6.0E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.5E-02	2.1E-02	4.0E-03	0.040
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.9E-03	6.1E-03	7.7E-04	9.8E-03
Total volatile organic HAPs					1.50%	1.30%	0.055	0.139	0.014	0.208

Methodology

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

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: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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 = 125 days of rain greater than or equal to 0.01 inches
 f = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	5	5.79	0.50	0.528	0.185
Limestone	1.6	1.85	0	0.000	0.000
RAP	0.5	0.58	0	0.000	0.000
Gravel	5	5.79	0.50	0.528	0.185
Shingles	0.5	0.58	0	0.000	0.000
Slag	3.8	4.40	0.50	0.401	0.140
Totals				1.46	0.51

Methodology

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

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

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

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

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: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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.

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

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

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

Methodology

The percent asphalt cement/binder provided by the source.

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]

Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other 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	0.00	0.00
Screening	0.025	0.0087	20.81	7.24
Conveying	0.003	0.0011	2.50	0.92
Unlimited Potential to Emit (tons/yr) =			23.30	8.16

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: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

Unpaved Roads at Industrial Site

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

Maximum Annual Asphalt Production = 1,752,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 1,664,400 tons/yr
 Maximum Asphalt Cement/Binder Throughput = 87,600 tons/yr
 Maximum No. 2 Fuel Oil Usage = 3,128,571 gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	7.4E+04	2.9E+06	300	0.057	4221.8
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	7.4E+04	1.3E+06	300	0.057	4221.8
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	2.4E+03	1.2E+05	300	0.057	138.3
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.4E+03	2.9E+04	300	0.057	138.3
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	3.3E+02	1.5E+04	300	0.057	18.8
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	3.3E+02	4.0E+03	300	0.057	18.8
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	4.0E+05	7.6E+06	300	0.057	22516.2
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	4.0E+05	5.9E+06	300	0.057	22516.2
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	7.3E+04	3.0E+06	300	0.057	4147.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	7.3E+04	1.2E+06	300	0.057	4147.7
Total					1.1E+06	2.2E+07			6.2E+04

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

Unmitigated Emission Factor, $E_f = k * [(s/12)^a] * [(W/3)^b]$ (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 =	6.09	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)	12.87	3.28	0.33	8.46	2.16	0.22	4.23	1.08	0.11
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	12.87	3.28	0.33	8.46	2.16	0.22	4.23	1.08	0.11
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.421	0.107	0.01	0.277	0.071	0.01	0.139	0.035	0.00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.421	0.107	0.01	0.277	0.071	0.01	0.139	0.035	0.00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.057	0.015	0.00	0.038	0.010	0.00	0.019	0.005	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.057	0.015	0.00	0.038	0.010	0.00	0.019	0.005	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	68.62	17.49	1.75	45.12	11.50	1.15	22.56	5.75	0.57
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	68.62	17.49	1.75	45.12	11.50	1.15	22.56	5.75	0.57
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	12.64	3.22	0.32	8.31	2.12	0.21	4.16	1.06	0.11
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	12.64	3.22	0.32	8.31	2.12	0.21	4.16	1.06	0.11
Totals		189.20	48.22	4.82	124.40	31.71	3.17	62.20	15.85	1.59

Methodology

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

Abbreviations

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

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

Paved Roads at Industrial Site

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

Maximum Annual Asphalt Production = 1,752,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 1,664,400 tons/yr
 Maximum Asphalt Cement/Binder Throughput = 87,600 tons/yr
 Maximum No. 2 Fuel Oil Usage = 3,128,571 gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	7.4E+04	2.9E+06	300	0.057	4221.8
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	7.4E+04	1.3E+06	300	0.057	4221.8
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	2.4E+03	1.2E+05	300	0.057	138.3
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.4E+03	2.9E+04	300	0.057	138.3
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	3.3E+02	1.5E+04	300	0.057	18.8
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	3.3E+02	4.0E+03	300	0.057	18.8
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	4.0E+05	7.6E+06	300	0.057	22516.2
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	4.0E+05	5.9E+06	300	0.057	22516.2
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	7.3E+04	3.0E+06	300	0.057	4147.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	7.3E+04	1.2E+06	300	0.057	4147.7
Total					1.1E+06	2.2E+07			6.2E+04

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

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

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/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, $E_{ext} = E_f * [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$
 where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
 N = 365 days per year

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

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

Methodology

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

Abbreviations

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

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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

Maximum Annual Asphalt Production =	1,752,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	7.0%	
Maximum Asphalt Cement/Binder Throughput =	122,640	tons/yr

Volatiles 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%	31,027.9	29,476.5
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	35,075.0	24,552.5
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	24,528.0	6,132.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	18,396.0	8,535.7
Other asphalt with solvent binder	25.9%	2.5%	31,763.8	794.1
Worst Case PTE of VOC =				29,476.5

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) =	7,688.57
PTE of Single HAP (tons/yr) =	2,652.89 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: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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:

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

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

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

Asphalt Plant Limitations - Drum Mix

Maximum Hourly Asphalt Production =	200	ton/hr								
Annual Asphalt Production Limitation =	1,400,000	ton/yr								
Blast Furnace Slag Usage Limitation =	2,500	ton/yr	1.50	% sulfur						
Steel Slag Usage Limitation =	2,500		0.66	% sulfur						
Maximum Dryer Fuel Input Rate =	50.0	MMBtu/hr								
Natural Gas Limitation =	0	MMCF/yr								
No. 2 Fuel Oil Limitation =	2,700,105	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0	% sulfur						
Propane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Liquefied Petroleum Fuel Limitation =	4,496,920	gal/yr, and	0.22	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	698,642	gal/yr, and	1.40	% sulfur	3.00	% ash	0.400	% chlorine,	0.010	% lead
Diesel Fuel Limitation - Generator < 600 HP =	0	gal/yr, and								
Diesel Fuel Limitation - Generator > 600 HP =	0	gal/yr	0	% sulfur						
PM Dryer/Mixer Limitation =	0.240	lb/ton of asphalt production								
PM10 Dryer/Mixer Limitation =	0.100	lb/ton of asphalt production								
PM2.5 Dryer/Mixer Limitation =	0.122	lb/ton of asphalt production								
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production								
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production								
Blast Furnace Slag SO2 Dryer/Mixer Limitation =	0.740	lb/ton of slag processed								
Steel Slag SO2 Dryer/Mixer Limitation =	0.0014	lb/ton of slag processed								
Cold Mix Asphalt VOC Limitation =	54.60	tons/yr								
HCl Limitation =	26.4	lb/kgal								

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP	
Ducted Emissions										
Dryer Fuel Combustion (worst case)	67.07	53.45	53.45	95.85	33.73	2.47	18.89	9.60	9.22 (hydrogen chloride)	
Dryer/Mixer (Process)	167.97	70.00	85.72	40.60	38.50	22.40	91.00	7.46	2.17 (formaldehyde)	
Dryer/Mixer Slag Processing	0	0	0	0.93	0	0	0	0	0	
Hot Oil Heater Fuel Combustion/Process (worst case)	0.06	0.10	0.10	2.22	0.63	0.01	0.16	0.0022	0.0019 (hexane)	
Diesel-Fired Generator < 600 HP	0	0	0	0	0	0	0	0	0 (formaldehyde)	
Diesel-Fired Generator > 600 HP	0	0	0	0	0	0	0	0	0 (benzene)	
Worst Case Emissions*	168.03	70.10	85.82	99.00	39.13	22.41	91.16	9.60	9.22 (hydrogen chloride)	
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.78	0.78	0.78	0	0	11.99	2.02	0.20	0.06 (formaldehyde)	
Material Storage Piles	0.84	0.30	0.30	0	0	0	0	0	0	
Material Processing and Handling	4.52	2.14	0.32	0	0	0	0	0	0	
Material Screening and Conveying	18.62	6.52	6.52	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	49.71	12.67	1.27	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	54.60	0	14.24	4.91 (xylenes)	
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0.00	0.00 (xylenes)	
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	negl	negl	
Total Fugitive Emissions	74.47	22.40	9.18	0	0	66.59	2.02	14.44	4.91 (xylenes)	
Totals Limited/Controlled Emissions	242.50	92.50	95.00	99.00	39.13	88.99	93.17	24.04	9.22 (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: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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

Fuel Limitations

Maximum Fuel Input Rate =	50	MMBtu/hr
Natural Gas Limitation =	0	MMCF/yr
No. 2 Fuel Oil Limitation =	2,700,105	gal/yr, and 0.50 % sulfur
No. 4 Fuel Oil Limitation =	0	gal/yr, and 0 % sulfur
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and 0 % sulfur
Propane Limitation =	0	gal/yr, and 0 gr/100 ft3 sulfur
Butane Limitation =	4,496,920	gal/yr, and 0.22 gr/100 ft3 sulfur
Used/Waste Oil Limitation =	698,642	gal/yr, and 1.40 % sulfur 3.00 % ash 0.400 % chlorine, 0.010 % lead

Limited Emissions

Criteria Pollutant	Emission Factor (units)							Limited Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Liquefied Petroleum Fuel (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Liquefied Petroleum Fuel (tons/yr)	Used/Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	7.0	3.22	0.5	0.6	192.0	0.00	2.70	0.00	0.00	0.000	1.349	67.07	67.07
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	153	0.00	4.46	0.00	0.00	0.000	1.349	53.45	53.45
SO2	0.6	71.0	0.0	0.0	0.00	0.02	205.8	0.00	95.85	0.00	0.00	0.000	0.045	71.89	95.85
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	0.00	27.00	0.00	0.00	0.00	33.73	6.64	33.73
VOC	5.5	0.20	0.20	0.28	1.0	1.10	1.0	0.00	0.27	0.00	0.00	0.00	2.47	0.35	2.47
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	0.00	6.75	0.00	0.00	0.00	18.89	1.75	18.89
Hazardous Air Pollutant															
HCl							26.4							9.22	9.22
Antimony			5.25E-03	5.25E-03			negl			0.00E+00	0.00E+00			negl	0.0E+00
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	0.0E+00	7.56E-04	0.00E+00	0.00E+00			3.84E-02	3.8E-02
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	0.0E+00	5.67E-04	0.00E+00	0.00E+00			negl	5.7E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	0.0E+00	5.67E-04	0.00E+00	0.00E+00			3.25E-03	3.2E-03
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	0.0E+00	5.67E-04	0.00E+00	0.00E+00			6.99E-03	7.0E-03
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	0.0E+00		0.00E+00	0.00E+00			7.34E-05	7.3E-05
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	0.0E+00	1.70E-03	0.00E+00	0.00E+00			1.9E-01	0.19
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	0.0E+00	1.13E-03	0.00E+00	0.00E+00			2.38E-02	0.02
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				0.0E+00	5.67E-04	0.00E+00	0.00E+00				5.7E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	0.0E+00	5.67E-04	0.00E+00	0.00E+00			3.84E-03	0.004
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	0.0E+00	2.84E-03	0.00E+00	0.00E+00			negl	2.8E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						0.00E+00	0.00E+00				0.0E+00
1,3-Butadiene															0.0E+00
Acetaldehyde															0.0E+00
Acrolein															0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				0.0E+00		0.00E+00	0.00E+00				0.0E+00
Bis(2-ethylhexyl)phthalate							2.2E-03							7.69E-04	7.7E-04
Dichlorobenzene	1.2E-03						8.0E-07	0.0E+00						2.79E-07	2.8E-07
Ethylbenzene			6.36E-05	6.36E-05						0.00E+00	0.00E+00				0.0E+00
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				0.0E+00	8.24E-02	0.00E+00	0.00E+00				0.082
Hexane	1.8E+00							0.0							0.000
Phenol							2.4E-03							8.38E-04	8.4E-04
Toluene	3.4E-03		6.20E-03	6.20E-03				0.0E+00		0.00E+00	0.00E+00				0.0E+00
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0.00E+00	0.00E+00			1.37E-02	1.4E-02
Polycyclic Organic Matter		3.30E-03							4.46E-03						4.5E-03
Xylene			1.09E-04	1.09E-04						0.00E+00	0.00E+00				0.0E+00
Total HAPs								0.00	0.10	0.00	0.00	0	0	9.51	9.60

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 = Polyaromatic Hydrocarbon

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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

Maximum Hourly Asphalt Production =	200	ton/hr
Annual Asphalt Production Limitation =	1,400,000	ton/yr
PM Dryer/Mixer Limitation =	0.240	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.100	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.122	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

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*	0.240	0.240	0.240	168.0	168.0	168.0	168.0
PM10*	0.100	0.100	0.100	70.0	70.0	70.0	70.0
PM2.5*	0.122	0.122	0.122	85.7	85.7	85.7	85.7
SO2**	0.003	0.011	0.058	2.4	7.7	40.6	40.6
NOx**	0.026	0.055	0.055	18.2	38.5	38.5	38.5
VOC**	0.032	0.032	0.032	22.4	22.4	22.4	22.4
CO***	0.130	0.130	0.130	91.0	91.0	91.0	91.0
Hazardous Air Pollutant							
HCl			2.10E-04			0.15	0.15
Antimony	1.80E-07	1.80E-07	1.80E-07	1.26E-04	1.26E-04	1.26E-04	1.26E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	3.92E-04	3.92E-04	3.92E-04	3.92E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.87E-04	2.87E-04	2.87E-04	2.87E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	3.85E-03	3.85E-03	3.85E-03	3.85E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.82E-05	1.82E-05	1.82E-05	1.82E-05
Lead	6.20E-07	1.50E-05	1.50E-05	4.34E-04	1.05E-02	1.05E-02	1.05E-02
Manganese	7.70E-06	7.70E-06	7.70E-06	5.39E-03	5.39E-03	5.39E-03	5.39E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	1.68E-04	1.82E-03	1.82E-03	1.82E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	4.41E-02	4.41E-02	4.41E-02	4.41E-02
Selenium	3.50E-07	3.50E-07	3.50E-07	2.45E-04	2.45E-04	2.45E-04	2.45E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	2.80E-02	2.80E-02	2.80E-02	2.80E-02
Acetaldehyde			1.30E-03			0.91	0.91
Acrolein			2.60E-05			1.82E-02	1.82E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.27	0.27	0.27	0.27
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.17	0.17	0.17	0.17
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	2.17	2.17	2.17	2.17
Hexane	9.20E-04	9.20E-04	9.20E-04	0.64	0.64	0.64	0.64
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.03	0.03	0.03	0.03
MEK			2.00E-05			0.01	0.01
Propionaldehyde			1.30E-04			0.09	0.09
Quinone			1.60E-04			0.11	0.11
Toluene	1.50E-04	2.90E-03	2.90E-03	0.11	2.03	2.03	2.03
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.13	0.62	0.62	0.62
Xylene	2.00E-04	2.00E-04	2.00E-04	0.14	0.14	0.14	0.14
Total HAPs							7.46
Worst Single HAP							2.17 (formaldehyde)

Methodology

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

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

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

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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

Limited Blast Furnace Slag Usage =

2,500

 ton/yr

1.50

 % sulfur
 Limited Annual Steel Slag Usage =

2,500

 ton/yr

0.66

 % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Limited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	0.7400	0.9
Steel Slag**	0.0014	0.002

Methodology

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

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

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 Location: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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

Unlimited/Uncontrolled Emissions

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	0.000	0.063	0.06
PM10/PM2.5	7.6	3.3	0.000	0.103	0.10
SO2	0.6	71.0	0.000	2.221	2.22
NOx	100	20.0	0.000	0.626	0.63
VOC	5.5	0.20	0.000	0.006	0.01
CO	84	5.0	0.000	0.156	0.16
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	0.0E+00	1.75E-05	1.8E-05
Beryllium	1.2E-05	4.2E-04	0.0E+00	1.31E-05	1.3E-05
Cadmium	1.1E-03	4.2E-04	0.0E+00	1.31E-05	1.3E-05
Chromium	1.4E-03	4.2E-04	0.0E+00	1.31E-05	1.3E-05
Cobalt	8.4E-05		0.0E+00		0.0E+00
Lead	5.0E-04	1.3E-03	0.0E+00	3.94E-05	3.9E-05
Manganese	3.8E-04	8.4E-04	0.0E+00	2.63E-05	2.6E-05
Mercury	2.6E-04	4.2E-04	0.0E+00	1.31E-05	1.3E-05
Nickel	2.1E-03	4.2E-04	0.0E+00	1.31E-05	1.3E-05
Selenium	2.4E-05	2.1E-03	0.0E+00	6.57E-05	6.6E-05
Benzene	2.1E-03		0.0E+00		0.0E+00
Dichlorobenzene	1.2E-03		0.0E+00		0.0E+00
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	0.0E+00	1.91E-03	0.002
Hexane	1.8E+00		0.00		0.000
Phenol					0
Toluene	3.4E-03		0.0E+00		0.0E+00
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		1.03E-04	1.0E-04
Total HAPs =			0.0E+00	2.2E-03	0.002
Worst Single HAP =			0.0E+00	1.9E-03	1.9E-03

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
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

Output Horsepower Rating (hp)	0
Limited Hours Operated per Year	0
Limited Throughput (hp-hr/yr)	0
Limited Diesel Fuel Usage (gal/yr)	0

	Pollutant						
	PM ²	PM10 ²	direct PM2.5 ²	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Emission Factor in lb/kgal ¹	43.07	43.07	43.07	40.13	606.85	49.22	130.77
Limited Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

¹The AP-42 Chapter 3.3-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

¹Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

²PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							Total PAH HAPs ³
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/MMBtu	9.33E-04	4.09E-04	2.85E-04	3.91E-05	1.18E-03	7.67E-04	9.25E-05	1.68E-04
Emission Factor in lb/kgal ⁴	1.28E-01	5.60E-02	3.91E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Limited Emission in tons/yr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

³PAH = Polycyclic Aromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

⁴The AP-42 Chapter 3.3-1 emission factors in lb/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁴Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Limited Emission of Total HAPs (tons/yr)	0.00E+00
Limited Emission of Worst Case HAPs (tons/yr)	0.00E+00

Green House Gas Emissions (GHG)

	Pollutant		
	CO2 ⁵	CH4 ⁵	N2O ⁶
Emission Factor in lb/hp-hr	1.15	NA	NA
Emission Factor in kg/MMBtu	NA	0.003	0.0006
Emission Factor in lb/kgal	22,512.07	0.91	0.18
Limited Emission in tons/yr	0.00	0.000	0.000

⁵The AP-42 Chapter 3.3-1 emission factor in lb/hp-hr was converted to lb/kgal emission factor using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁵Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

⁶The 40 CFR 98 Subpart C emission factors in kg/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁶Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kg) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Summed Limited Emissions in tons/yr	0.00
CO2e Total in tons/yr	0.00

Methodology

Limited Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Limited Hours Operated per Year]

Limited Diesel Fuel Usage (gal/yr) = Limited Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)

Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2 and have been converted to lb/kgal

CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal

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

Limited Emissions (tons/yr) = [Limited Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 gal/kgal) / (2,000 lb/ton)

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

Appendix A.2: Limited Emissions Summary
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

Output Horsepower Rating (hp)	0	Sulfur Content (S) of Fuel (% by weight)	0.00
Limited Hours Operated per Year	0		
Limited Throughput (hp-hr/yr)	0		
Limited Diesel Fuel Usage (gal/yr)	0		

	Pollutant						
	PM	PM10 ²	direct PM2.5 ²	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04			0.00E+00 (.00809S)	2.40E-02	7.05E-04	5.50E-03
Emission Factor in lb/MMBtu		0.0573	0.0573				
Emission Factor in lb/kgal ¹	13.70	7.85	7.85	0.00	469.82	13.80	107.67
Limited Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

¹The AP-42 Chapter 3.4-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

²Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

²Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

²Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Hazardous Air Pollutants (HAPs)

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs ³
Emission Factor in lb/MMBtu	7.76E-04	2.81E-04	1.93E-04	7.89E-05	2.52E-05	7.88E-06	2.12E-04
Emission Factor in lb/kgal ⁴	1.06E-01	3.85E-02	2.64E-02	1.08E-02	3.45E-03	1.08E-03	2.91E-02
Limited Emission in tons/yr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

³PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

⁴Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁴Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Limited Emission of Total HAPs (tons/yr)	0.00E+00
Limited Emission of Worst Case HAPs (tons/yr)	0.00E+00

Green House Gas Emissions (GHG)

	Pollutant		
	CO2 ⁵	CH4 ^{5,6}	N2O ⁷
Emission Factor in lb/hp-hr	1.16	6.35E-05	NA
Emission Factor in kg/MMBtu	NA	NA	0.0006
Emission Factor in lb/kgal	22,707.83	1.24	0.18
Limited Emission in tons/yr	0.00	0.00	0.00

⁵The AP-42 Chapter 3.4-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁵Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

⁶According to AP-42, Table 3.4-1, TOC (as CH4) is 9% methane by weight. As a result, the lb/hp-hr emission factor for TOC (as CH4) in AP-42 has been multiplied by 9% to determine the portion that is emitted as methane.

⁷The 40 CFR 98 Subpart C emission factors in kg/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁷Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kg) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Summed Potential Emissions in tons/yr	0.00
CO2e Total in tons/yr	0.00

Methodology

Limited Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Limited Hours Operated per Year]

Limited Diesel Fuel Usage (gal/yr) = Limited Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 and have been converted to lb/kgal.

N2O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal.

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

Limited Emissions (tons/yr) = [Limited Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 gal/kgal) / (2,000 lb/ton)

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O

Potential Emission ton/yr x N2O GWP (298).

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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

Asphalt Temperature, T =	325 F
Asphalt Volatility Factor, V =	-0.5
Annual Asphalt Production Limitation =	1,400,000 tons/yr

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	0.37	0.41	NA	0.78
Organic PM	3.4E-04	2.5E-04	NA	0.24	0.178	NA	0.42
TOC	0.004	0.012	0.001	2.91	8.53	0.770	12.2
CO	0.001	0.001	3.5E-04	0.94	0.826	0.246	2.02

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

PM/HAPs	0.017	0.020	0	0.037
VOC/HAPs	0.043	0.108	0.011	0.163
non-VOC/HAPs	2.2E-04	2.3E-05	5.9E-05	3.1E-04
non-VOC/non-HAPs	0.21	0.12	0.06	0.39

Total VOCs	2.74	8.53	0.7	12.0
Total HAPs	0.06	0.13	0.011	0.20
		Worst Single HAP		0.062
				(formaldehyde)

Methodology

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Abbreviations

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate

Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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%	6.2E-04	8.4E-04	NA	1.5E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	6.7E-05	2.5E-05	NA	9.2E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.7E-04	2.3E-04	NA	4.0E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	4.5E-05	1.0E-04	NA	1.4E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.8E-05	0	NA	1.8E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	5.3E-06	0	NA	5.3E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	4.5E-06	0	NA	4.5E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	5.5E-06	0	NA	5.5E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.9E-05	1.7E-05	NA	3.5E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	2.5E-04	3.7E-04	NA	6.2E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	8.8E-07	0	NA	8.8E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.2E-04	2.7E-04	NA	3.9E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.8E-03	1.8E-03	NA	3.6E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.1E-06	0	NA	1.1E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	5.7E-03	9.4E-03	NA	0.015
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	3.0E-03	3.2E-03	NA	6.2E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	5.3E-05	5.3E-05	NA	1.1E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.9E-03	3.2E-03	NA	5.1E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	3.6E-04	7.8E-04	NA	1.1E-03
Total PAH HAPs							0.014	0.020	NA	0.034
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.8E-03	0	0	2.8E-03

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

Methodology

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

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

Abbreviations

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

**Appendix A.2: Limited Emissions 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%	2.74	8.53	0.72	11.99
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.9E-01	2.2E-02	5.0E-02	0.261
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.3E-03	4.7E-03	3.5E-04	0.006
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	2.1E-02	9.4E-02	5.5E-03	0.120
Total non-VOC/non-HAPS					7.30%	1.40%	0.213	0.119	0.056	0.39
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.5E-03	2.7E-03	4.0E-04	4.6E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.8E-04	4.2E-04	7.4E-05	7.7E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.4E-03	3.3E-03	3.8E-04	5.1E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	3.8E-04	1.4E-03	1.0E-04	1.8E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	6.1E-06	3.4E-04	1.6E-06	3.5E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	4.4E-04	2.0E-03	1.2E-04	2.5E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	3.2E-03	0	8.5E-04	4.0E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	8.2E-03	3.2E-03	2.2E-03	0.014
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	2.6E-03	5.9E-02	6.8E-04	0.062
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	4.4E-03	8.5E-03	1.2E-03	0.014
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	5.2E-05	2.6E-05	1.4E-05	9.3E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.3E-05	0	2.3E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	2.1E-04	4.6E-04	5.6E-05	7.3E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.2E-04	0	5.9E-05	2.8E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	6.1E-03	5.3E-03	1.6E-03	0.013
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	3.8E-05	0	1.0E-05	4.8E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.2E-02	1.7E-02	3.2E-03	0.032
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.3E-03	4.9E-03	6.2E-04	7.8E-03
Total volatile organic HAPs					1.50%	1.30%	0.044	0.111	0.012	0.166

Methodology

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

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

Abbreviations

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

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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.

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.50	0.275	0.096
Limestone	1.6	1.85	0	0.000	0.000
RAP	0.5	0.58	0	0.000	0.000
Gravel	1.6	1.85	0.50	0.169	0.059
Shingles	0.5	0.58	0	0.000	0.000
Slag	3.8	4.40	0.50	0.401	0.140
Totals				0.84	0.30

Methodology

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

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

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

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

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: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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.

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

where: Ef = Emission factor (lb/ton)

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

Annual Asphalt Production Limitation = 1,400,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 1,330,000 tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	1.51	0.71	0.11
Front-end loader dumping of materials into feeder bins	1.51	0.71	0.11
Conveyor dropping material into dryer/mixer or batch tower	1.51	0.71	0.11
Total (tons/yr)	4.52	2.14	0.32

Methodology

The percent asphalt cement/binder provided by the source.
 Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
 Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other 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	0	0
Screening	0.025	0.0087	16.63	5.79
Conveying	0.003	0.0011	2.00	0.73
Limited Potential to Emit (tons/yr) =			18.62	6.52

Methodology

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

Abbreviations

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

Appendix A.2: Limited Emissions Summary
Unpaved Roads

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

Unpaved Roads at Industrial Site

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

Annual Asphalt Production Limitation = 1,400,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 1,330,000 tons/yr
 Maximum Asphalt Cement/Binder Throughput = 70,000 tons/yr
 No. 2 Fuel Oil Limitation = 2,700,105 gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	5.9E+04	2.3E+06	300	0.057	3,373.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	5.9E+04	1.0E+06	300	0.057	3,373.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.9E+03	9.3E+04	300	0.057	110.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.9E+03	2.3E+04	300	0.057	110.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.9E+02	1.3E+04	300	0.057	16.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.9E+02	3.4E+03	300	0.057	16.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	3.2E+05	6.1E+06	300	0.057	17,992.4
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	3.2E+05	4.8E+06	300	0.057	17,992.4
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	5.8E+04	2.4E+06	300	0.057	3,314.4
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	5.8E+04	9.9E+05	300	0.057	3,314.4
Total					8.7E+05	1.8E+07			5.0E+04

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

Unmitigated Emission Factor, $E_f = k * [(s/12)^a] * [(W/3)^b]$ (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, $E_{ext} = E_f * [(365 - P)/365]$

Mitigated Emission Factor, $E_{ext} = E_f * [(365 - P)/365]$

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)	10.28	2.62	0.26	6.76	1.72	0.17	3.36	0.86	0.09
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	10.28	2.62	0.26	6.76	1.72	0.17	3.36	0.86	0.09
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.337	0.086	0.01	0.221	0.056	5.6E-03	0.111	0.028	2.8E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.337	0.086	0.01	0.221	0.056	5.6E-03	0.111	0.028	2.8E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.049	0.013	1.3E-03	0.032	0.008	8.3E-04	0.016	0.004	4.1E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.049	0.013	1.3E-03	0.032	0.008	8.3E-04	0.016	0.004	4.1E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	54.83	13.97	1.40	36.05	9.19	0.92	18.03	4.59	0.46
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	54.83	13.97	1.40	36.05	9.19	0.92	18.03	4.59	0.46
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	10.10	2.57	0.26	6.64	1.69	0.17	3.32	0.85	0.08
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	10.10	2.57	0.26	6.64	1.69	0.17	3.32	0.85	0.08
Totals		151.19	38.53	3.85	99.42	25.34	2.53	49.71	12.67	1.27

Methodology

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

Abbreviations

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

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

Paved Roads at Industrial Site

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

Annual Asphalt Production Limitation =	1,400,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,330,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	70,000	tons/yr
No. 2 Fuel Oil Limitation =	2,700,105	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	5.9E+04	2.3E+06	300	0.057	3,373.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	5.9E+04	1.0E+06	300	0.057	3,373.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.9E+03	9.3E+04	300	0.057	110.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.9E+03	2.3E+04	300	0.057	110.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.9E+02	1.3E+04	300	0.057	16.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.9E+02	3.4E+03	300	0.057	16.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	3.2E+05	6.1E+06	300	0.057	17,992.4
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	3.2E+05	4.8E+06	300	0.057	17,992.4
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	5.8E+04	2.4E+06	300	0.057	3,314.4
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	5.8E+04	9.9E+05	300	0.057	3,314.4
Total					8.7E+05	1.8E+07			5.0E+04

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

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

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/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, $E_{mf} = E_f * [1 - (p/4N)]$

Mitigated Emission Factor, $E_{mf} =$	$E_f * [1 - (p/4N)]$
where p =	125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365 days per year

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.25	0.05	0.01	0.23	0.05	0.01	0.11	0.02	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.25	0.05	0.01	0.23	0.05	0.01	0.11	0.02	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.008	0.002	4.0E-04	0.008	0.002	3.7E-04	0.004	7.5E-04	1.8E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.008	0.002	4.0E-04	0.008	0.002	3.7E-04	0.004	7.5E-04	1.8E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.2E-03	2.4E-04	5.9E-05	1.1E-03	2.2E-04	5.4E-05	5.5E-04	1.1E-04	2.7E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.2E-03	2.4E-04	5.9E-05	1.1E-03	2.2E-04	5.4E-05	5.5E-04	1.1E-04	2.7E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	1.34	0.27	0.07	1.22	0.24	0.06	0.61	0.12	0.03
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	1.34	0.27	0.07	1.22	0.24	0.06	0.61	0.12	0.03
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.25	0.05	0.01	0.23	0.05	0.01	0.11	0.02	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.25	0.05	0.01	0.23	0.05	0.01	0.11	0.02	0.01
Totals		3.69	0.74	0.18	3.37	0.67	0.17	1.69	0.34	0.08

Methodology

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

Abbreviations

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

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

Company Name: API Construction Corporation
Source Address: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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%	57.47	54.60	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	77.99	54.60	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	218.39	54.60	4.000
Worst Case Limited PTE of VOC =				54.60	

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) =	14.24
Limited PTE of Single HAP (tons/yr) =	4.91 Xylenes

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

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

Methodology

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

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

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: 225 South CR 600 W, Angola, Indiana 46703
Permit Number: 151-37772-00064
Reviewer: Hannah L. Desrosiers

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:

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

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



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

December 13, 2016

Kirk Braun
API Construction Corp.
PO Box 191
LaOtto, IN 46763

Re: Public Notice
API Construction Corporation
Permit Level: FESOP
Permit Number: 151-37772-00064

Dear Mr. Braun:

Enclosed is a copy of your draft FESOP , Technical Support Document, emission calculations, and the Public Notice which will be printed in your local newspaper.

The Office of Air Quality (OAQ) has prepared two versions of the Public Notice Document. The abbreviated version will be published in the newspaper, and the more detailed version will be made available on the IDEM's website and provided to interested parties. Both versions are included for your reference. The OAQ has requested that the Herald Republican in Steuben County, Indiana publish the abbreviated version of the public notice no later than Friday, December 16, 2016. You will not be responsible for collecting any comments, nor are you responsible for having the notice published in the newspaper.

OAQ has submitted the draft permit package to the Angola Carnegie Public Library , 322 S Wayne in Angola, Indiana As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Hannah Desrosiers, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 3-9327 or dial (317) 233-9327.

Sincerely,
Catherine Denny
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover letter 2/17/2016



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Carol S. Comer
Commissioner

ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

December 13, 2016

Herald Republican
P.O. Box 180
Angola, Indiana 46703

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for API . in Steuben County, Indiana.

Since our agency must comply with requirements which call for a Notice of Public Comment, we request that you print this notice one time, no later than Friday, December 16, 2016.

Please send a notarized form, clippings showing the date of publication, and the billing to the Indiana Department of Environmental Management, Accounting, Room N1345, 100 North Senate Avenue, Indianapolis, Indiana, 46204.

To ensure proper payment, please reference account # 100174737.

We are required by the Auditor's Office to request that you place the Federal ID Number on all claims. If you have any conflicts, questions, or problems with the publishing of this notice or if you do not receive complete public notice information for this notice, please call Catherine Denny at 800-451-6027 and ask for extension 4-5256 or dial 317-234-5256.

Sincerely,
Catherine Denny
Permit Branch
Office of Air Quality

Permit Level: FESOP
Permit Number: 151 - 37772 - 00064

Enclosure

PN Newspaper.dot 2/17/2016



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Michael R. Pence
Governor

Carol S. Comer
Commissioner

December 13, 2016

To: Carnegie Public Library

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

Subject: **Important Information to Display Regarding a Public Notice for an Air Permit**

Applicant Name: API Construction Corporation
Permit Number: 151-37772-00064

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Request to publish the Notice of 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. **Please make this information readily available until you receive a copy of the final package.**

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. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures
PN Library.dot 2/17/2016



Indiana Department of Environmental Management

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

Notice of Public Comment

December 13, 2016
API construction Corporation
151-37772-00064

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has been placed in the Legal Advertising section of your local newspaper. The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana's Air Permitting Program.

Please Note: *If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.*

Enclosure
PN AAA Cover.dot 2/17/2016

Mail Code 61-53

IDEM Staff	CDENNY 12/13/2016 API Construction Corp. 151-37772-00064 (draft)		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		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handling Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee
											Remarks
1		Kirk Braun API Construction Corp. PO Box 191 LaOtto IN 46763 (Source CAATS)									
2		Steuben County Board of Commissioners 317 S Wayne Suite 2H Angola IN 46703 (Local Official)									
3		Steuben County Health Department 317 S. Wayne St, Community Center Suite 3-A Angola IN 46703-1938 (Health Department)									
4		Mr. Steve Roosz NISWMD 2320 W 800 S, P.O. Box 370 Ashley IN 46705 (Affected Party)									
5		Angola City Council and Mayors Office 210 N. Public Square Angola IN 46703 (Local Official)									
6		Angola Carrengie Public Library 322 S Wayne Angola IN 46703-1990 (Library)									
7		Mr. Diane Hanson 490 E 300 N Angola IN 46703 (Affected Party)									
8		Orland Town Council P.O. Box 445 Orland IN 46776 (Local Official)									
9		Joe Kinder DECA Environmental & Associates, Inc. 410 1st Avenue NE Carmel IN 46032 (Consultant)									
10											
11											
12											
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