INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: February 21, 2012

RE: Milestone Contractors, LP / 145-31102-03230

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

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot12/03/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Robert J. Beyke
Regional Affairs Manager
Milestone Contractors, L.P.
5950 South Belmont Avenue,
Indianapolis, IN 46217

February 21, 2012

Re: F145-31102-03230
First Significant Revision to
F145-23091-03230

Dear Mr. Beyke:

Milestone Contractors, L.P. was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F145-23091-03230, on February 1, 2007, for a stationary drum mix asphalt pavement production plant, located at 201 East Rampart Street, Shelbyville, Indiana 46176. On November 4, 2011, the Office of Air Quality (OAQ) received an application from the source requesting to increase the operational flexibility of their stationary source through the addition of blast furnace and electric arc furnace steel mill slag, and recycled shingles to their aggregate mix. Milestone has also requested approval to use additional cold-mix emulsions in the production cold-mix asphalt, and approval to perform onsite RAP crushing. The RAP crushing will be performed by a portable unit that will be moved from site to site on an as-needed basis. Finally, Milestone has requested that the baghouse instrument calibration requirement be revised to account for the seasonality of hot-mix asphalt production. The attached Technical Support Document (TSD) provides additional explanation of the changes to the source/permit. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
   The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
   Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

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

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Ms. Hannah Desrosiers, of my staff, at 317-234-5374 or 1-800-451-6027, and ask for extension 4-5374.

Sincerely,

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Documents and revised permit with attachments

IC/hd

cc: File - Shelby County
Shelby County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
Billing, Licensing, and Training Section

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Federally Enforceable State Operating Permit Renewal
OFFICE OF AIR QUALITY

Milestone Contractors, L.P.
201 East Rampart Street
Shelbyville, Indiana 46176

(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. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-8-11.1, applicable to those conditions

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.: F145-23091-03230	
Originally Signed By: Nisha Sizemore, Branch Chief Permits Branch Office of Air Quality	Issuance Date: February 1, 2007 Expiration Date: February 1, 2017

First Administrative Amendment No.: F145-25978-03230, issued on February 21, 2008.

First Significant Permit Revision No.: F145-31102-03230	
Issued by: Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: February 21, 2012 Expiration Date: February 1, 2017

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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 drum mix asphalt pavement production plant and cold-mix asphalt production operation. Recycled asphalt pavement (RAP) is crushed on-site, and blast furnace slag, electric arc furnace steel mill slag, and/or asbestos-free recycled shingles are processed in the aggregate mix. This source does not grind any shingles on-site.

Source Address:	201 East Rampart Street, Shelbyville, Indiana 46176
General Source Phone Number:	(317) 788 6885
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
County Location:	Shelby
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) aggregate counter flow drum mix asphalt plant, identified as emission unit No. 2, installed in 2004, with a maximum throughput capacity of 400 tons of raw material per hour, processing blast furnace slag, steel slag, and recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) in the aggregate mix, equipped with one (1) natural gas fired aggregate dryer burner with a maximum rated capacity of 135.0 million (MM) British thermal units (Btu) per hour, using No. 2 distillate fuel oil and re-refined waste oil as back-up fuels and one (1) baghouse system for air pollution control, exhausting at one (1) stack, identified as S-1;

(b) one (1) drag slat conveyor, three (3) feed conveyors, and one (1) screen, each installed in 1976;

(c) one (1) cold feed system consisting of six (6) compartments with a total aggregate holding capacity of 150 tons;

(d) two (2) hot mix asphalt cement storage silos, each with a maximum storage capacity of 100 tons;

(e) one (1) Recycled Asphalt Pavement (RAP) feed bin with a holding capacity of 18 tons;

(f) Aggregate storage piles, with a total maximum storage capacity of 32,500 tons, including:

(1) Blast furnace and/or electric arc steel slag storage piles, with a maximum anticipated pile size of 0.40 acres.

(2) Recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) storage piles, with a maximum anticipated pile size of 0.40 acres.

(g) RAP storage piles, with a maximum storage capacity of 30,000 tons;

Under 40 CFR 60, Subpart I, New Source Performance Standards for Hot-mix Asphalt Plants, this source is considered an effected facility.

(h) One (1) 173 horsepower, diesel fuel-fired portable RAP crusher and screener for processing reclaimed asphalt pavement (RAP), identified as EU002, approved for construction in 2012, with a maximum throughput capacity of 200 tons of RAP per hour; and

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

Under 40 CFR 60, 1068.30(2)(iii), General Compliance Provisions for Highway, Stationary, and Nonroad Programs, this unit this is considered a nonroad engine.

(i) cold-mix (stockpile mix) asphalt manufacturing operations and storage piles, installed in 1976.

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

This stationary source also includes the following insignificant activities:

(a) one (1) No. 2 distillate fuel oil fired asphalt storage tank heater, identified as emission unit No. 11, rated at 0.45 MMBtu per hour, using natural gas as back-up fuel, and exhausting at two (2) stacks, identified as S-2A, and S 2B;

(b) one (1) No. 2 distillate fuel oil fired hot oil heater, identified as emission unit No. 13, rated at 1.25 MMBtu per hour, using natural gas as back-up fuel, exhausting at one (1) stack, identified as S-4; [326 IAC 6-2]

(c) three (3) liquid asphalt storage tanks, identified as Tank 10, Tank 12 and Tank 16, with respective maximum storage capacities of 30,000, 22,000 and 30,000 gallons, with emissions exhausting through Stacks V-3, V-5 and V-8, respectively;

(d) two (2) re-refined waste oil storage tanks, identified as Tanks 14 and 15, with respective maximum storage capacities of 20,000 and 10,000 gallons, and each exhausting at one (1) stack, identified as V-6 and V-7, respectively;

(e) propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than 6.0 MMBtu per hr;

(f) combustion source flame safety purging on startup;

(n) one (1) 1,000 gallon calibration tank to hold liquid asphalt cement for approximately 30 minutes, once per month.

(g) Volatile Organic Compound (VOC) and Hazardous Air Pollutant (HAP) storage tanks with capacity less than or equal to 1,000 gallons and annual throughput less than 12,000 gallons;

(h) vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;

(i) application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings;

(j) cleaners and solvents having a vapor pressure equal to or less than 2 kPa; 15 mm Hg; or 0.3 psi measured at 38 degrees C (1001F) or; having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 201C (681); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months;

(k) closed loop heating and cooling systems;

(l) a laboratory as defined in 326 IAC 2-7-1(21)(D); and

(m) paved and unpaved roads and parking lots with public access; [326 IAC 6-4] [326 IAC 6-5]

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

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

SECTION B GENERAL CONDITIONS

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

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

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

(a) This permit, F145-23091-03230, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
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(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

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

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

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

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

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

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

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

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

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

(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:

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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 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, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

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

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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;

(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 F145-23091-03230 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

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

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

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

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

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

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

(1) That this permit contains a material mistake.

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

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

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

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

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

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

Request for renewal shall be submitted to:

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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:

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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.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);

(4) The Permittee notifies the:

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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(b).

(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;

(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
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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 whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

(a) Pursuant to 326 IAC 2-8:

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

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

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

(4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO2 equivalent emissions (CO_2e) per twelve (12) consecutive month period.

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

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

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

C.3 Opacity [326 IAC 5-1]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(A) Asbestos removal or demolitions start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

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

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

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
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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:

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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.

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

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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).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(1) initial inspection and evaluation;

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

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

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

(1) monitoring results;

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

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

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

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

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

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

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

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

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

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

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

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

(1) All calibration and maintenance records.

(2) All original strip chart recordings for continuous monitoring instrumentation.

(3) Copies of all reports required by the FESOP.

Records of required monitoring information include the following:

(4) The date, place, as defined in this permit, and time of sampling or measurements.

(5) The dates analyses were performed.

(6) The company or entity that performed the analyses.

(7) The analytical techniques or methods used.

(8) The results of such analyses.

(9) 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 the end of the reporting period. The Quarterly Deviation and Compliance Monitoring

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

(b) The address for report submittal is:

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

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

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

Stratospheric Ozone Protection

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

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Hot-mix Asphalt Plant, and RAP Crusher & Screener.

(a) one (1) aggregate counter flow drum mix asphalt plant, identified as emission unit No. 2, installed in 2004, with a maximum throughput capacity of 400 tons of raw material per hour, processing blast furnace slag, steel slag, and recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) in the aggregate mix, equipped with one (1) natural gas fired aggregate dryer burner with a maximum rated capacity of 135.0 million (MM) British thermal units (Btu) per hour, using No. 2 distillate fuel oil and re-refined waste oil as back-up fuels and one (1) baghouse system for air pollution control, exhausting at one (1) stack, identified as S-1;

(b) one (1) drag slat conveyor, three (3) feed conveyors, and one (1) screen, each installed in 1976;

(c) one (1) cold feed system consisting of six (6) compartments with a total aggregate holding capacity of 150 tons;

(d) two (2) hot mix asphalt cement storage silos, each with a maximum storage capacity of 100 tons;

(e) one (1) Recycled Asphalt Pavement (RAP) feed bin with a holding capacity of 18 tons;

(f) Aggregate storage piles, with a total maximum storage capacity of 32,500 tons, including:

(1) Blast furnace and/or electric arc steel slag storage piles, with a maximum anticipated pile size of 0.40 acres.

(2) Recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) storage piles, with a maximum anticipated pile size of 0.40 acres.

(g) RAP storage piles, with a maximum storage capacity of 30,000 tons;

Under 40 CFR 60, Subpart I, New Source Performance Standards for Hot-mix Asphalt Plants, this source is considered an effected facility.

(h) One (1) 173 horsepower, diesel fuel-fired portable RAP crusher and screener for processing reclaimed asphalt pavement (RAP), identified as EU002, approved for construction in 2012, with a maximum throughput capacity of 200 tons of RAP per hour; and

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

Under 40 CFR 60, 1068.30(2)(iii), General Compliance Provisions for Highway, Stationary, and Nonroad Programs, this unit this is considered a nonroad engine.

Insignificant Activities: Boilers

(b) one (1) No. 2 distillate fuel oil fired hot oil heater, identified as emission unit No. 13, rated at 1.25 MMBtu per hour, using natural gas as back-up fuel, exhausting at one (1) stack, identified as S-4; [326 IAC 6-2]

(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 PSD Minor Limit [326 IAC 2-2]]

In order to render 326 IAC 2-2 not applicable;

(a) The amount of asphalt processed shall not exceed 1,306,817 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The PM emissions from the dryer/mixer shall not exceed 0.247 pounds per ton of asphalt processed.

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

D.1.2 FESOP Limits: PM10, PM2.5, SO2, VOC, and CO [326 IAC 2-8-4][326 IAC 2-2][326 IAC 8-1-6]

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

(a) The amount of asphalt processed shall not exceed 1,306,817 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The PM10 emissions from the dryer/mixer shall not exceed 0.109 pounds per ton of asphalt processed.

(c) The PM2.5 emissions from the dryer/mixer shall not exceed 0.133 pounds of PM2.5 per ton of asphalt produced.

(d) The SO2 emissions from the dryer/mixer shall not exceed 0.058 pounds per ton of asphalt processed.

(e) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.

(f) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, SO2, VOC, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, SO2, VOC, and CO to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-1.1-5 (Nonattainment New Source Review) not applicable.

Additionally, compliance with the limit in condition D.1.2(e) shall limit the VOC emissions from the dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

D.1.3 FESOP Limits: SO2, NOx, 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 326 IAC 2-2 and 326 IAC 2-4.1 not applicable, the Permittee shall comply with the following:

(a) Fuel and Slag Specifications

(1) The sulfur content of the No. 2 distillate fuel oil shall not exceed 0.50% by weight.

(2) The sulfur content of the waste oil shall not exceed 0.75% by weight.

(3) The waste oil combusted in the dryer burner shall not contain more than 1.02% ash, 0.20% chlorine, and 0.010% lead.

(4) The HCl emissions shall not exceed 13.2 pounds of HCl per 1,000 gallons of waste oil burned.

(5) The sulfur content of the Blast Furnace slag shall not exceed 1.50% by weight.

(6) The SO2 emissions from the dryer/mixer shall not exceed 0.740 pounds per ton of Blast Furnace slag processed in the aggregate mix.

(7) The sulfur content of the Steel slag shall not exceed 0.66% by weight.

(8) The SO2 emissions from the dryer/mixer shall not exceed 0.0014 pounds per ton of Steel slag processed in the aggregate mix.

(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) Natural gas usage shall not exceed 785 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.

(2) No. 2 fuel oil usage shall not exceed 2,117,904 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;

(3) Waste oil usage shall not exceed 1,363,911 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month; and

(4) The Blast Furnace slag usage shall not exceed 50,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Note: The source is only permitted to burn the above-mentioned fuels.

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

(1) SO_2 emissions from the dryer/mixer shall not exceed 93.69 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(2) NOx emissions from the dryer/mixer shall not exceed 74.55 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(3) HCl emissions from the dryer/mixer shall not exceed 9.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) Asphalt Shingle Usage Limitation
Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)) not applicable, the Permittee shall not grind recycled asphalt shingles on-site and shall only use certified asbestos-free recycled shingles, post consumer waste and/or factory seconds, as an additive in its aggregate mix.

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

D.1.4 Particulate Emission Limits [326 IAC 6-2]

Pursuant to 326 IAC 6-2-4, the particulate emissions from the hot oil heater shall not exceed six tenths (0.6) pounds of particulate matter per MMBtu heat input.

D.1.5 Particulate Emission Limits [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the diesel fuel-fired portable RAP crusher and screener shall not exceed 58.51 pounds per hour when operating at a process weight rate of 200 tons (or 400,000 pounds) per hour.

The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

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

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

(1) The sulfur dioxide (SO2) emissions from the dryer/mixer burner shall not exceed five tenths (0.5) pounds per MMBtu when using distillate oil.

(2) The sulfur dioxide (SO2) emissions from the dryer/mixer burner shall not exceed one and six tenths (1.6) pounds per MMBtu heat input when using residual oil.

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

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

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

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

Compliance Determination Requirements

D.1.8 Particulate Control

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

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the

expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

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

(a) 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 most recent valid compliance demonstration, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable particulate matter.

(b) In order to demonstrate compliance with Condition D.1.3(a)(6), when using Blast Furnace slag, the Permittee shall perform SO2 testing for the aggregate dryer within one hundred eighty (180) days of initial use of Blast Furnace slag in the aggregate mix, utilizing methods as approved by the Commissioner. Testing shall only be performed if the company has not previously performed SO2 testing while using Blast Furnace slag in the aggregate mix at one of their other Indiana facilities. 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.

D.1.10 Sulfur Dioxide (SO_2) Emissions and Sulfur Content

Fuel Oil

(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. Pursuant to 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements), compliance shall be demonstrated on a thirty (30) day calendar-month average.

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

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

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

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

(3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 135 MMBtu/hr 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 in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

Blast Furnace Slag

(b) Compliance with the blast furnace slag limitation established in Condition D.1.3(a)(5) shall be determined utilizing one of the following options. Pursuant to 326 IAC 7-2-1

(Sulfur Dioxide Reporting Requirements), compliance shall be demonstrated on a thirty (30) day calendar-month average.

(1) Maintaining all records of vendor analyses or certifications of blast furnace slag delivered; or

(2) Analyzing a sample of each blast furnace slag delivery, if no vendor analyses or certifications are available, to determine the sulfur content of the blast furnace slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 135 MMBtu/hr 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 in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

Steel Slag

(c) Compliance with the steel slag limitations established in Condition D.1.3(a)(7) shall be determined utilizing one of the following options. Pursuant to 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements), compliance shall be demonstrated on a thirty (30) day calendar-month average.

(1) Maintaining all records of vendor analyses or certifications of steel slag delivered; or

(2) Analyzing a sample of the steel slag delivery if no vendor analyses or certifications are available, at least once per quarter, to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 135 MMBtu/hr 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 in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

D.1.11 Hydrogen Chloride (HCl) Emissions and Ash, Chlorine, and Lead Content

The Permittee shall demonstrate compliance with the waste oil ash, chlorine, and lead content limits established in Condition D.1.3(a)(3), by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.

D.1.12 Multiple Fuel and Slag Usage

In order to comply with the Condition D.1.3(c) when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, the Permittee shall limit fuel usage according to the following formulas:

(a) Sulfur Dioxide (SO2) Emission Calculation

$$S = \frac{G(E_G) + O(E_O) + W(E_W) + B(E_B) + T(E_T)}{2{,}000 \text{ lbs/ton}}$$

where:
S = tons of sulfur dioxide emissions for a 12-month consecutive period
G = million cubic feet of natural gas used in the last 12 months
O = gallons of No. 2 fuel oil used in the last 12 months
W = gallons of Waste oil used in the last 12 months
B = tons of Blast Furnace slag used in the last 12 months
T = tons of Steel slag used in the last 12 months

Emission Factors
E_G = 0.60 lb/million cubic feet of natural gas
E_O = 71.0 lb/1000 gallons of No. 2 fuel oil
E_W = 110.3 lb/1000 gallons of Waste oil
E_B = 0.74 lb/ton of Blast Furnace slag used
E_T = 0.0014 lb/ton of Steel slag used

(b) Nitrogen Oxides (NOx) Emission Calculation

$$N = \frac{G(E_G) + O(E_O) + W(E_W)}{2{,}000 \text{ lbs/ton}}$$

where:
N = tons of nitrogen oxide emissions for a 12-month consecutive period;
G = million cubic feet of natural gas used in the last 12 months;
O = gallons of No. 2 fuel oil used in the last 12 months;
W = gallons of reclaimed/waste oil used in the last 12 months.

Emission Factors
E_G = 190 lb/million cubic feet of natural gas;
E_O = 24.0 lb/1000 gallons of No. 2 fuel oil;
E_W = 19.0 lb/1000 gallons of waste oil.

(c) Hydrogen Chloride (HCL) Emission Calculation

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

where:
HCl = tons of hydrogen chloride emissions for a 12-month consecutive period
W = gallons of waste oil used in the in the dryer/mixer in the last 12 months.

Emission Factor
E_W = 13.2 lb/1000 gallons of waste oil.

D.1.13 Shingle Asbestos Content

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

(1) Providing shingle supplier certification that the factory second shingles do not contain asbestos; or

(2) Analyzing a sample of the recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) delivery to determine the asbestos content of the recycled asphalt shingles, utilizing any applicable procedures and analysis methods

specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

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

D.1.14 Visible Emissions Notations

(a) Visible emission notations from the conveyors, screens, material transfer points, crusher, and dryer/mixer stack (S-1) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.1.15 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 one (1.0) and eight (8.0) inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.1.16 Broken or Failed Bag Detection

In the event that bag failure has been observed:

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

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

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

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

D.1.17 Record Keeping Requirements

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

(b) To document the compliance status with Conditions D.1.3 and D.1.6, the Permittee shall maintain records in accordance with (1) through (10) below. Records maintained for (1) through (10) below shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3 and D.1.6.

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

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

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

(4) 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

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

(i) Fuel supplier certifications;

(ii) The name of the fuel supplier; and

(iii) A statement from the fuel supplier that certifies the sulfur content of the No. 2 and waste oil, and the ash, chlorine, and lead content of waste oil.

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

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

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

(i) Blast furnace and steel slag supplier certifications;

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

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

(9) A certification, signed by the owner or operator, that the records of the shingle supplier certifications represent all of the shingles used during the period; and

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

(A) Shingle supplier certifications;

(B) The name of the shingle supplier(s); and

(C) A statement from the shingle supplier(s) that certifies the asbestos content of the shingles from their company.

(d) To document the compliance status with Condition D.1.14, the Permittee shall maintain records once per day of the visible emission notations. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

(e) To document the compliance status with Condition D.1.15, the Permittee shall maintain records once per day of the pressure drop during normal operation. The Permittee shall include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).

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

D.1.18 Reporting Requirements

A quarterly summary of the information to document compliance status with Conditions D.1.1(a), D.1.2(a), and D.1.3, shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee’s obligation with regard to the reporting required by this condition. The 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 D.2 EMISSIONS UNIT OPERATION CONDITIONS

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

(d) Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles.

(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.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]

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

(a) Penetrating prime coating

(b) Stockpile storage

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

D.2.2 Volatile Organic Compounds (VOC) [326 IAC 2-8-4] [326 IAC 2-2]

(a) Pursuant to 326 IAC 2-8-4, the VOC emissions from the sum of the liquid binders (asphalt emulsions) shall not exceed 53.44 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 95.0% 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 70.0% by weight of VOC solvent evaporating.

(3) Cut back asphalt slow cure, containing a maximum of 20.0% of the liquid binder by weight of VOC solvent and 25.0% by weight of VOC solvent evaporating.

(4) Emulsified asphalt with solvent, containing a maximum of 15.0% of liquid binder by weight of VOC solvent and 46.4% by weight of the VOC solvent in the liquid blend evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be seven percent (7%) or less of the total emulsion by volume.

(5) Other asphalt with solvent binder, containing a maximum 25.9% of the liquid binder of VOC solvent and 2.5% by weight of the VOC solvent evaporating.

(c) When using only one type of liquid binder (asphalt emulsion) per twelve (12) consecutive month period, the usage of liquid binder shall be limited as follows:

(1) The amount of VOC solvent used in rapid cure cutback asphalt shall not exceed 56.25 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 76.34 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 213.76 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(4) The amount of VOC solvent used in emulsified asphalt shall not exceed 115.71 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(5) The amount of VOC solvent used in all other asphalt shall not exceed 2,137.64 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) When using more than one liquid binder (asphalt emulsion) per twelve (12) consecutive month period, VOC emissions shall be limited as follows:

(1) The VOC solvent allotments in (1) through (5) above shall be adjusted when more than one type of binder is used per twelve (12) consecutive month period with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment factor listed in the table that follows.

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

Type of binder	adjustment factor
cutback asphalt rapid cure	1.053
cutback asphalt medium cure	1.429
cutback asphalt slow cure	4.000
emulsified asphalt	2.155
other asphalt	40.0

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

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

D.2.3 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.2(c)(1) through (5), the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.2.2(c)(1) through (5).

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

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

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

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

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

(b) Section C - General Record Keeping Requirements 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 the compliance status with Condition D.2.2 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 NSPS REQUIREMENTS

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

(a) one (1) aggregate counter flow drum mix asphalt plant, identified as emission unit No. 2, installed in 2004, with a maximum throughput capacity of 400 tons of raw material per hour, processing blast furnace slag, steel slag, and recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) in the aggregate mix, equipped with one (1) natural gas fired aggregate dryer burner with a maximum rated capacity of 135.0 million (MM) British thermal units (Btu) per hour, using No. 2 distillate fuel oil and re-refined waste oil as back-up fuels and one (1) baghouse system for air pollution control, exhausting at one (1) stack, identified as S-1;

(b) one (1) drag slat conveyor, three (3) feed conveyors, and one (1) screen, each installed in 1976;

(c) one (1) cold feed system consisting of six (6) compartments with a total aggregate holding capacity of 150 tons;

(d) two (2) hot mix asphalt cement storage silos, each with a maximum storage capacity of 100 tons;

(e) one (1) Recycled Asphalt Pavement (RAP) feed bin with a holding capacity of 18 tons;

(f) Aggregate storage piles, with a total maximum storage capacity of 32,500 tons, including:

(1) Blast furnace and/or electric arc steel slag storage piles, with a maximum anticipated pile size of 0.40 acres.

(2) Recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) storage piles, with a maximum anticipated pile size of 0.40 acres.

(g) RAP storage piles, with a maximum storage capacity of 30,000 tons;

Under 40 CFR 60, Subpart I, New Source Performance Standards for Hot-mix Asphalt Plants, this source is considered an effected facility.

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

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

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

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

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

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

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

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

(a) 40 CFR 60.90

(b) 40 CFR 60.91

(c) 40 CFR 60.92

(d) 40 CFR 60.93

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

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

SECTION E.2 NSPS REQUIREMENTS

Emissions Unit Description [326 IAC 2-8-4(10)]: Recycled Asphalt Pavement (RAP) Crushing & Screening Operation

(g) One (1) 173 horsepower, diesel fuel-fired portable RAP crusher and screener for processing reclaimed asphalt pavement (RAP), identified as EU002, approved for construction in 2012, with a maximum throughput capacity of 200 tons of RAP per hour; and

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

Under 40 CFR 60, 1068.30(2)(iii), General Compliance Provisions for Highway, Stationary, and Nonroad Programs, this unit this is considered a nonroad engine.

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

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

E.2.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

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

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

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

(1) 40 CFR 60.670(a), (d), (e), and (f)
(2) 40 CFR 60.671
(3) 40 CFR 60.672(b), (d), and (e)
(4) 40 CFR 60.673
(5) 40 CFR 60.674(b)
(6) 40 CFR 60.675(a), (c)(1)(i), (ii), (iii), (c)(3), (d), (e), (g), and (i)
(7) 40 CFR 60.676(a), (b)(1), (f), (h), (i), (j), and (k)
(8) Table 1 and Table 3

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

In order to demonstrate compliance with Condition E.2.2, the Permittee shall perform testing for fugitive emissions from affected facilities without water sprays, as required under NSPS 40 CFR 60, Subpart OOO, not later than five (5) years from the most recent valid compliance demonstration, utilizing methods approved by the Commissioner. Testing shall only be performed if the company has not previously performed testing for the same crusher at one of

their other Indiana facilities. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

Note: Pursuant to §60.674(b)(1), affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in §60.674(b) and §60.676(b) are exempt from this 5-year repeat testing requirement.

SECTION E.3 NSPS & NESHAP REQUIREMENTS

Emissions Unit Description [326 IAC 2-8-4(10)]: Recycled Asphalt Pavement (RAP) Crushing & Screening Operation

(h) One (1) 173 horsepower, diesel fuel-fired portable RAP crusher and screener for processing reclaimed asphalt pavement (RAP), identified as EU002, approved for construction in 2012, with a maximum throughput capacity of 200 tons of RAP per hour; and

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

Under 40 CFR 60, 1068.30(2)(iii), General Compliance Provisions for Highway, Stationary, and Nonroad Programs, this unit this is considered a nonroad engine.

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

E.3.1 Nonroad Engines [326 IAC 12][40 CFR 60, Subpart IIII][326 IAC 20-82][40 CFR 63, Subpart ZZZZ][40 CFR 1068.30]

In order to render the requirements of the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR Part 60, Subpart IIII), which are incorporated by reference as 326 IAC 12, and the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ), which are incorporated by reference as 326 IAC 20-82, not applicable, and to ensure the diesel fuel-fired portable RAP crusher and screener is a nonroad engine, as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), the Permittee shall comply with the following:

(a) The diesel fuel-fired portable RAP crusher and screener shall remain at a location for a period not to exceed twelve (12) consecutive months.

(b) Any diesel fuel-fired portable RAP crusher and screener that replaces a diesel fuel-fired portable RAP crusher and screener at a location and that is intended to perform the same or similar function as the diesel fuel-fired portable RAP crusher and screener replaced will be included in calculating the consecutive time period.

(c) For the purposes of this condition, and pursuant to 40 CFR 1069.30 Nonroad Engine (2)(iii), a location is any single site at a building, structure, facility, or installation.

Compliance with these limits shall render the requirements of the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR Part 60, Subpart IIII) and the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ) not applicable.

E.3.2 Record Keeping Requirements

(a) To document the compliance status with Condition E.3.1(a), the Permittee shall maintain records of the dates of installation and removal of the diesel fuel-fired portable RAP crusher and screener as the unit is installed and removed.

(b) To document the compliance status with Condition E.3.1(b), the Permittee shall maintain records of the make, model, horsepower rating, manufacture date, and model year of each diesel fuel-fired portable RAP crusher and screener brought onto the site.

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

E.3.3 Reporting Requirements

A quarterly summary of the information to document compliance status with Conditions E.3.1(a) and E.3.1(b), shall be submitted using the reporting form located at the end of this permit, or its equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The 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).

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

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
FESOP Permit No.: F145-23091-03230

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

Please check what document is being certified:

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

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

Signature:
Printed Name:
Title/Position:
Date:

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

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) EMERGENCY OCCURRENCE REPORT

Source Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
FESOP Permit No.: F145-23091-03230

This form consists of 2 pages **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)

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

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

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

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:_____

Title / Position:_____

Date:_____

Phone: _____

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

FESOP Quarterly Report

Source Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
FESOP No.: F145-23091-03230
Facility: Dryer/Mixer Burner
Parameter: **Hot-mix Asphalt Production**
Limit: The amount of hot-mix asphalt produced in the dryer/burner shall not exceed 1,306,817 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
	Hot-mix Asphalt Produced This Month (tons)	Hot-mix Asphalt Produced Previous 11 Months (tons)	12 Month Total Hot-mix Asphalt Produced (tons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

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

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

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

FESOP Quarterly Report

Source Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
FESOP No.: F145-23091-03230

Facility: Dryer/Mixer Burner

Parameter: **Fuel & Slag Usage / SO2, NOx, & HCL emissions**

Emission Limits: *Sulfur dioxide (SO_2)* emissions shall not exceed 93.69 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12(a).

Nitrogen oxides (NOx) emissions shall not exceed 74.55 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12(b).

Hydrogen Chloride (HCL) emissions shall not exceed 9.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12(c).

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)
Natural gas (million cubic feet (MMCF))	785
No. 2 Distillate Fuel Oil (gallons)	2,117,904
Waste Oil (gallons)	1,363,911
Blast Furnace Slag (tons)	50,000

Facility: Cold-mix Asphalt Production

Parameter: **Binder Usage / VOC Emissions**

Emission Limits: *Volatile Organic Compound (VOC)* emissions from the sum of the binders shall not exceed 53.44 tons per twelve (12) consecutive month period with compliance determined at the end of each month, using the equation found in Condition D.2.2(d).

Binder Limits: When using only one type of liquid binder (asphalt emulsion) per twelve (12) consecutive month period in the production of cold-mix asphalt, liquid binder (asphalt emulsion) usage shall not exceed the following:

Type of Binder	Binder Usage Limit (per 12 consecutive month period)
Cutback Asphalt Rapid Cure	56.25
Cutback Asphalt Medium Cure	76.34
Cutback Asphalt Slow Cure	213.76
Emulsified Asphalt	115.71
Other Asphalt	2,137.64

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

QUARTER: _____ YEAR: _____

Month	Fuel Types / 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)	Nitrogen Oxides (NOx) Emissions (tons per 12 months)	Hydrogen Chloride (HCl) Emissions (tons per 12 months)
Month 1	Natural gas (MMCF)						
	No. 2 Fuel Oil (gallons)						
	Waste Fuel Oil (gallons)						
	Blast Furnace Slag (tons)						
	Steel Slag Usage (tons)						
Month 2	Natural gas (MMCF)						
	No. 2 Fuel Oil (gallons)						
	Waste Fuel Oil (gallons)						
	Blast Furnace Slag (tons)						
	Steel Slag Usage (tons)						
Month 3	Natural gas (MMCF)						
	No. 2 Fuel Oil (gallons)						
	Waste Fuel 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 - Liquid Binder (Asphalt Emulsion) Usage / VOC Emissions

QUARTER: _____ YEAR: _____

Month	Binder/Emulsion Types (units)	Column 1 Usage This Month	Column 2 Usage Previous 11 Months	Column 1 + Column 2 Usage 12 Month Total	Equation Results VOC Emissions (tons per 12 months)
Month 1	Cutback asphalt rapid cure liquid binder (million cubic feet)				
	Cutback asphalt medium cure liquid binder (gallons)				
	Cutback asphalt slow cure liquid binder (gallons)				
	Emulsified asphalt with solvent liquid binder				
	Other asphalt with solvent liquid binder				
Month 2	Cutback asphalt rapid cure liquid binder (million cubic feet)				
	Cutback asphalt medium cure liquid binder (gallons)				
	Cutback asphalt slow cure liquid binder (gallons)				
	Emulsified asphalt with solvent liquid binder				
	Other asphalt with solvent liquid binder				
Month 3	Cutback asphalt rapid cure liquid binder (million cubic feet)				
	Cutback asphalt medium cure liquid binder (gallons)				
	Cutback asphalt slow cure liquid binder (gallons)				
	Emulsified asphalt with solvent liquid binder				
	Other asphalt with solvent liquid binder				

☐ 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: _____

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

Type of Binder	Adjustment Factor
Cutback Asphalt Rapid Cure	1.053
Cutback Asphalt Medium Cure	1.429
Cutback Asphalt Slow Cure	4.0
Emulsified Asphalt	2.155
Other Asphalt	40.0

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

FESOP Quarterly Report

Source Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
FESOP No.: F145-23091-03230

Facility: Diesel Fuel-Fired Portable RAP Crusher and Screener, identified as EU002

Limit: The diesel fuel-fired portable RAP crusher and screener shall remain at a location for a period not to exceed twelve (12) consecutive months.

Manufacture Date: _____ Installation Date: _____

Make: _____ Removal Date: _____

Model: _____ Model Year: _____

Horsepower Rating: _____ MMBtu/hr Rating: _____

QUARTER:_____ YEAR:_____

Month	Column 1	Column 2	Column 1 - Column 2
	Number of Days Onsite This Month	Number of Days Onsite Previous 11 Months	12 Month Total Number of Days Onsite
Month 1			
Month 2			
Month 3			

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

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

Source Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
FESOP Permit No.: F145-23091-03230

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:	

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

Form Completed by:_____

Title / Position:_____

Date:_____

Phone: _____

FEDERALLY ENFORCEABLE
STATE OPERATING PERMIT RENEWAL
OFFICE OF AIR QUALITY

Milestone Contractors, L.P.
201 East Rampart Street,
Shelbyville, Indiana 46176

Attachment A

HOT-MIX ASPHALT CONCRETE PLANT

FUGITIVE PARTICULATE MATTER EMISSIONS CONTROL PLAN

Op. Permit No.: F145-23091-03230
Significant Permit Revision No.: F145-31102-03230

1. Fugitive particulate matter emissions from paved roads, unpaved roads, and parking lots shall be controlled by one or more of the following methods:

   (a) Paved roads and parking lots:

      (1) power brooming while wet either from rain or application of water on an as needed basis.

   (b) Unpaved roads and parking lots:

      (1) paving with asphalt;

      (2) treating with emulsified asphalt on an as needed basis;

      (3) treating with water on an as needed basis;

      (4) double chip and seal the road surface and maintained on an as needed basis.

2. Fugitive particulate matter emissions from aggregate stockpiles shall be controlled by one or more of the following methods on an as needed basis:

   (a) maintaining minimum size and number of stock piles of aggregate;

   (b) treating around the stockpile area with emulsified asphalt;

   (c) treating around the stockpile area with water;

   (d) treating the stockpiles with water.

3. Fugitive particulate matter emissions from outdoor conveying of aggregates shall be controlled by the following method on an as needed basis:

   (a) applying water at the feed and the intermediate points.

4. Fugitive particulate matter emissions from the transfer of aggregates shall be controlled by one of the following methods:

   (a) minimize the vehicular distance between transfer points;

   (b) enclose the transfer points;

   (c) apply water on transfer points on an as needed basis.

5. Fugitive particulate matter emissions from transportation of aggregate by truck, front end loader, etc. shall be controlled by one of the following methods:

   (a) tarping the aggregate hauling vehicles;

   (b) maintain vehicle bodies in a condition to prevent leakage;

   (c) spray the aggregates with water;

   (d) maintain a 10 MPH speed limit in the yard.

6. Fugitive particulate matter emissions from the loading and unloading of aggregate shall be controlled by one of the following methods:

   (a) reduce free fall distance to a minimum;

(b) reduce the rate of discharge of the aggregate;

(c) spray the aggregate with water on an as needed basis.

7. Fugitive particulate matter (dust) emissions from material handling operations such as crushing, grinding, screening, and mixing shall be controlled by one or more the following measures:

(1) wet suppression.

(2) enclosure of emission source with venting of emissions to a fabric filter.

A copy of the (manufacturers) specification for the particulate matter collection system equipment (i.e. fabric filter, wet suppression system) used as a fugitive particulate matter emission control measure shall be appended to the Fugitive Dust Control Plan.

8. Plan Implementation

(a) The effective date of this plan was April 2, 1998.

(b) Date of most recent update: December 06, 2011.

DEFINITIONS:

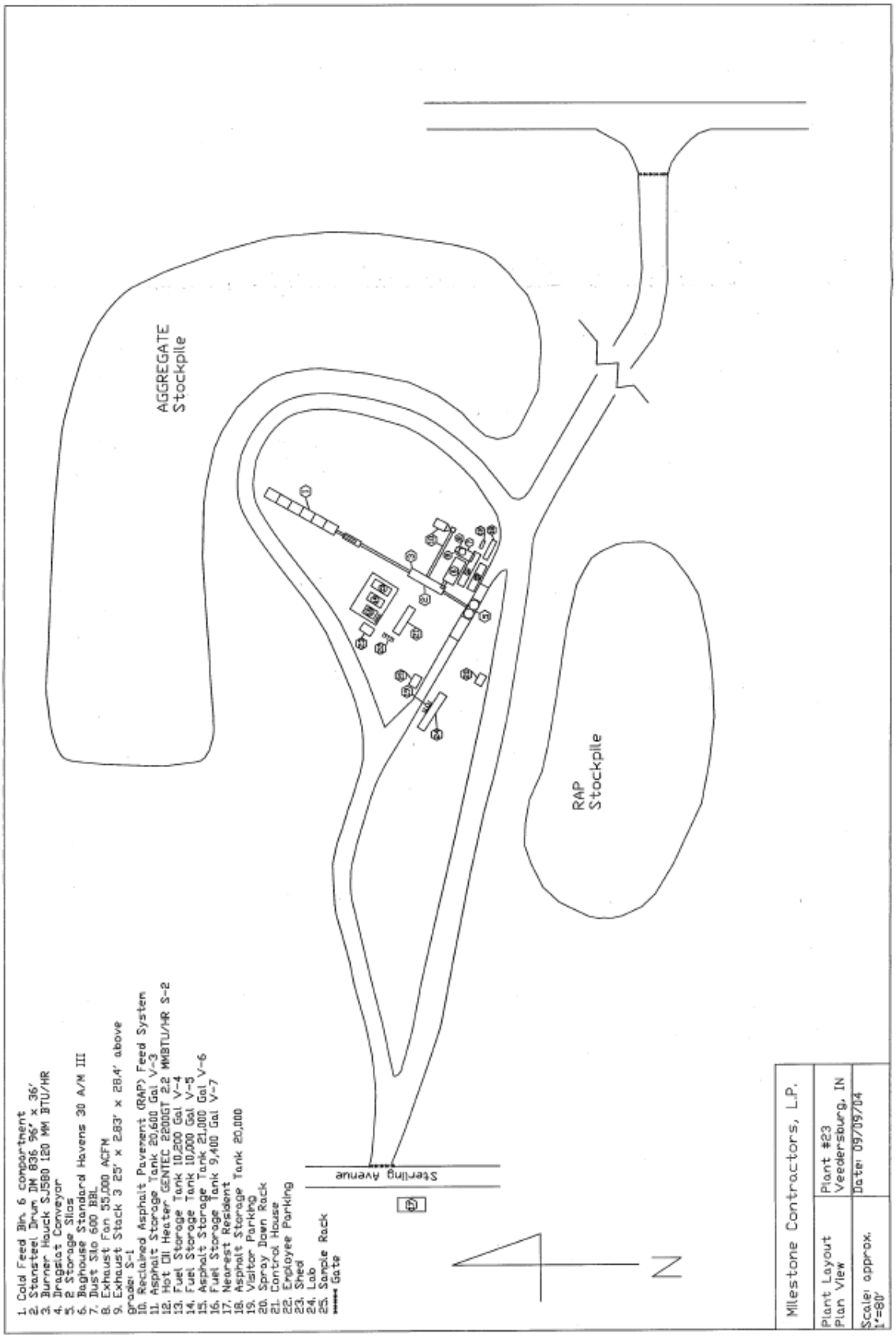
An “as-needed basis” means the frequency or quantity of application necessary to minimize visible particulate matter emissions.

SITE MAP:

See next page.

REFERENCE:

The Indiana Administrative Code, Title 326 Air Pollution Control Board, Article 6. Particulate Rules, weblink: http://www.in.gov/legislative/iac/T03260/A00060.PDF? . See page 12 for Rule 5. Fugitive Particulate Matter Emission Limitations.


1. Cold Feed Bin, 6 compartment
2. Stansteel Drum DM 836 96" x 36'
3. Burner Houck SJ580 120 MM BTU/HR
4. Dragslat Conveyor
5. 2 Storage Silos
6. Baghouse Standard Havens 30 A/M III
7. Dust Silo 600 BBL
8. Exhaust Fan 55,000 ACFM
9. Exhaust Stack 3 25' x 2.83' x 28.4' above grade S-1
10. Reclaimed Asphalt Pavement (RAP) Feed System
11. Asphalt Storage Tank 20,600 Gal V-3
12. Hot Oil Heater CENTEC 2200GT 2.2 MMBTU/HR S-2
13. Fuel Storage Tank 10,200 Gal V-4
14. Fuel Storage Tank 10,000 Gal V-5
15. Asphalt Storage Tank 21,000 Gal V-6
16. Fuel Storage Tank 9,400 Gal V-7
17. Nearest Resident
18. Asphalt Storage Tank 20,000
19. Visitor Parking
20. Spray Down Rack
21. Control House
22. Employee Parking
23. Shed
24. Lab
25. Sample Rack
Gate
AGGREGATE Stockpile
RAP Stockpile
Sterling Avenue
N
Milestone Contractors, L.P.
Plant Layout Plan View
Plant #23 Veedersburg, IN
Scale: approx. 1"=80'
Date: 09/09/04

FEDERALLY ENFORCEABLE
STATE OPERATING PERMIT RENEWAL

OFFICE OF AIR QUALITY

Milestone Contractors, L.P.
201 East Rampart Street,
Shelbyville, Indiana 46176

Attachment B

Title 40: Protection of Environment

PART 60—NEW SOURCE PERFORMANCE STANDARDS

SUBPART I - STANDARDS OF PERFORMANCE
FOR HOT MIX ASPHALT FACILITIES

Op. Permit No.: F145-23091-03230
Significant Permit Revision No.: F145-31102-03230

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

§ 60.90 Applicability and designation of affected facility.

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

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

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

§ 60.91 Definitions.

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

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

[51 FR 12325, Apr. 10, 1986]

§ 60.92 Standard for particulate matter.

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

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

(2) Exhibit 20 percent opacity, or greater.

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

§ 60.93 Test methods and procedures.

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

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

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

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

[54 FR 6667, Feb. 14, 1989]

Reference

The US EPA Electronic Code of Federal Regulations - 40 CFR 60, Subpart I: Standards of Performance for Hot Mix Asphalt Facilities weblink:
http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=875648a88dd2168ac2096fe26e3e4c98&rgn=div6&view=text&node=40:6.0.1.1.1.20&idno=40

FEDERALLY ENFORCEABLE
STATE OPERATING PERMIT RENEWAL

OFFICE OF AIR QUALITY

Milestone Contractors, L.P.
201 East Rampart Street,
Shelbyville, Indiana 46176

Attachment C

Title 40: Protection of Environment

PART 60—NEW SOURCE PERFORMANCE STANDARDS

Subpart OOO - STANDARDS OF PERFORMANCE
FOR NONMETALLIC MINERAL PROCESSING PLANTS

Significant Permit Revision No.: F145-31102-03230

40 CFR 60, Subpart OOO—Standards of Performance for Nonmetallic Mineral Processing Plants

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

§ 60.670 Applicability and designation of affected facility.

(a) (1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.

(2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; plants without crushers or grinding mills above ground; and wet material processing operations (as defined in §60.671).

(b) An affected facility that is subject to the provisions of subparts F or I of this part or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.

(c) Facilities at the following plants are not subject to the provisions of this subpart:

(1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 23 megagrams per hour (25 tons per hour) or less;

(2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 136 megagrams per hour (150 tons per hour) or less; and

(3) Common clay plants and pumice plants with capacities, as defined in §60.671, of 9 megagrams per hour (10 tons per hour) or less.

(d) (1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in §60.671, having the same function as the existing facility, and there is no increase in the amount of emissions, the new facility is exempt from the provisions of §§60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.

(2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in §60.676(a).

(3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§60.672, 60.674 and 60.675.

(e) An affected facility under paragraph (a) of this section that commences construction, modification, or reconstruction after August 31, 1983, is subject to the requirements of this part.

(f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that do not apply to owners and operators of affected facilities subject to this subpart or that apply with certain exceptions.

§ 60.671 Definitions.

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

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

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

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

Building means any frame structure with a roof.

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

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

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

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

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

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

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

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

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

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

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

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

(1) Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.

(2) Sand and Gravel.

(3) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.

(4) Rock Salt.

(5) Gypsum (natural or synthetic).

(6) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.

(7) Pumice.

(8) Gilsonite.

(9) Talc and Pyrophyllite.

(10) Boron, including Borax, Kernite, and Colemanite.

(11) Barite.

(12) Fluorospar.

(13) Feldspar.

(14) Diatomite.

(15) Perlite.

(16) Vermiculite.

(17) Mica.

(18) Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 60.672 Standard for particulate matter (PM).

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

(b) Affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of this subpart within 60 days after achieving the maximum production rate at which the affected

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

(c) [Reserved]

(d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

(e) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a) and (b) of this section, or the building enclosing the affected facility or facilities must comply with the following emission limits:

(1) Fugitive emissions from the building openings (except for vents as defined in §60.671) must not exceed 7 percent opacity; and

(2) Vents (as defined in §60.671) in the building must meet the applicable stack emission limits and compliance requirements in Table 2 of this subpart.

(f) Any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance testing) in Table 2 of this subpart but must meet the applicable stack opacity limit and compliance requirements in Table 2 of this subpart. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions.

§ 60.673 Reconstruction.

(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital cost that would be required to construct a comparable new facility” under §60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.

(b) Under §60.15, the “fixed capital cost of the new components” includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

§ 60.674 Monitoring of operations.

(a) The owner or operator of any affected facility subject to the provisions of this subpart which uses a wet scrubber to control emissions shall install, calibrate, maintain, and operate the following monitoring devices:

(1) A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±250 pascals ±1 inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(2) A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(b) The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control

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

(1) If an affected facility relies on water carryover from upstream water sprays to control fugitive emissions, then that affected facility is exempt from the 5-year repeat testing requirement specified in Table 3 of this subpart provided that the affected facility meets the criteria in paragraphs (b)(1)(i) and (ii) of this section:

(i) The owner or operator of the affected facility conducts periodic inspections of the upstream water spray(s) that are responsible for controlling fugitive emissions from the affected facility. These inspections are conducted according to paragraph (b) of this section and §60.676(b), and

(ii) The owner or operator of the affected facility designates which upstream water spray(s) will be periodically inspected at the time of the initial performance test required under §60.11 of this part and §60.675 of this subpart.

(2) If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under §60.676(b) must specify the control mechanism being used instead of the water sprays.

(c) Except as specified in paragraph (d) or (e) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A–7). The Method 22 (40 CFR part 60, Appendix A–7) test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner or operator must record each Method 22 (40 CFR part 60, Appendix A–7) test, including the date and any corrective actions taken, in the logbook required under §60.676(b). The owner or operator of the affected facility may establish a different baghouse-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to §60.675(b) simultaneously with a Method 22 (40 CFR part 60, Appendix A–7) to determine what constitutes normal visible emissions from that affected facility's baghouse when it is in compliance with the applicable PM concentration limit in Table 2 of this subpart. The revised visible emissions success level must be incorporated into the permit for the affected facility.

(d) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A–7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions may use a bag leak detection system. The owner or operator must install, operate, and maintain the bag leak detection system according to paragraphs (d)(1) through (3) of this section.

(1) Each bag leak detection system must meet the specifications and requirements in paragraphs (d)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (e.g. , using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (d)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (d)(1)(vi) of this section.

(vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (d)(2) of this section.

(vii) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) The owner or operator of the affected facility must develop and submit to the Administrator or delegated authority for approval of a site-specific monitoring plan for each bag leak detection system. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (d)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored; and

(vi) Corrective action procedures as specified in paragraph (d)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(3) For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (d)(2)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the PM emissions.

(e) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A–7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility that is subject to the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) may follow the continuous compliance requirements in row 1 items (i) through (iii) of Table 6 to Subpart AAAAA of 40 CFR part 63.

§ 60.675 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendices A–1 through A–7 of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of this section.

(b) The owner or operator shall determine compliance with the PM standards in §60.672(a) as follows:

(1) Except as specified in paragraphs (e)(3) and (4) of this section, Method 5 of Appendix A–3 of this part or Method 17 of Appendix A–6 of this part shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5 (40 CFR part 60, Appendix A–3), if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.

(2) Method 9 of Appendix A–4 of this part and the procedures in §60.11 shall be used to determine opacity.

(c) (1) In determining compliance with the particulate matter standards in §60.672(b) or §60.672(e)(1), the owner or operator shall use Method 9 of Appendix A–4 of this part and the procedures in §60.11, with the following additions:

(i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9 of Appendix A–4 of this part, Section 2.1) must be followed.

(iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(2) (i) In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under §60.672(f) of this subpart, using Method 9 (40 CFR part 60, Appendix A–4), the duration of the Method 9 (40 CFR part 60, Appendix A–4) observations shall be 1 hour (ten 6-minute averages).

(ii) The duration of the Method 9 (40 CFR part 60, Appendix A–4) observations may be reduced to the duration the affected facility operates (but not less than 30 minutes) for baghouses that control storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time.

(3) When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b) or §60.672(e)(1) of this subpart, the duration of the Method 9 (40 CFR part 60, Appendix A–4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of this subpart must be based on the average of the five 6-minute averages.

(d) To demonstrate compliance with the fugitive emission limits for buildings specified in §60.672(e)(1), the owner or operator must complete the testing specified in paragraph (d)(1) and (2) of this section. Performance tests must be conducted while all affected facilities inside the building are operating.

(1) If the building encloses any affected facility that commences construction, modification, or reconstruction on or after April 22, 2008, the owner or operator of the affected facility must conduct an initial Method 9 (40 CFR part 60, Appendix A–4) performance test according to this section and §60.11.

(2) If the building encloses only affected facilities that commenced construction, modification, or reconstruction before April 22, 2008, and the owner or operator has previously conducted an initial Method 22 (40 CFR part 60, Appendix A–7) performance test showing zero visible emissions, then the owner or operator has demonstrated compliance with the opacity limit in §60.672(e)(1). If the owner or operator has not conducted an initial performance test for the building before April 22, 2008, then the owner or operator must conduct an initial Method 9 (40 CFR part 60, Appendix A–4) performance test according to this section and §60.11 to show compliance with the opacity limit in §60.672(e)(1).

(e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For the method and procedure of paragraph (c) of this section, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:

(i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.

(ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.

(2) A single visible emission observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions are met:

(i) No more than three emission points may be read concurrently.

(ii) All three emission points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.

(iii) If an opacity reading for any one of the three emission points equals or exceeds the applicable standard, then the observer must stop taking readings for the other two points and continue reading just that single point.

(3) Method 5I of Appendix A–3 of this part may be used to determine the PM concentration as an alternative to the methods specified in paragraph (b)(1) of this section. Method 5I (40 CFR part 60, Appendix A–3) may be useful for affected facilities that operate for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations.

(4) In some cases, velocities of exhaust gases from building vents may be too low to measure accurately with the type S pitot tube specified in EPA Method 2 of Appendix A–1 of this part [i.e., velocity head <1.3 mm H2O (0.05 in. H2O)] and referred to in EPA Method 5 of Appendix A–3 of this part. For these conditions, the owner or operator may determine the average gas flow rate produced by the power fans (e.g., from vendor-supplied fan curves) to the building vent. The owner or operator may calculate the average gas velocity at the building vent measurement site using Equation 1 of this section and use this average velocity in determining and maintaining isokinetic sampling rates.

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

Where:

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

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

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

(f) To comply with §60.676(d), the owner or operator shall record the measurements as required in §60.676(c) using the monitoring devices in §60.674 (a)(1) and (2) during each particulate matter run and shall determine the averages.

(g) For performance tests involving only Method 9 (40 CFR part 60 Appendix A–4) testing, the owner or operator may reduce the 30-day advance notification of performance test in §60.7(a)(6) and 60.8(d) to a 7-day advance notification.

(h) [Reserved]

(i) If the initial performance test date for an affected facility falls during a seasonal shut down (as defined in §60.671 of this subpart) of the affected facility, then with approval from the permitting authority, the owner or operator may postpone the initial performance test until no later than 60 calendar days after resuming operation of the affected facility.

§ 60.676 Reporting and recordkeeping.

(a) Each owner or operator seeking to comply with §60.670(d) shall submit to the Administrator the following information about the existing facility being replaced and the replacement piece of equipment.

(1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:

(i) The rated capacity in megagrams or tons per hour of the existing facility being replaced; and

(ii) The rated capacity in tons per hour of the replacement equipment.

(2) For a screening operation:

(i) The total surface area of the top screen of the existing screening operation being replaced; and

(ii) The total surface area of the top screen of the replacement screening operation.

(3) For a conveyor belt:

(i) The width of the existing belt being replaced; and

(ii) The width of the replacement conveyor belt.

(4) For a storage bin:

(i) The rated capacity in megagrams or tons of the existing storage bin being replaced; and

(ii) The rated capacity in megagrams or tons of replacement storage bins.

(b) (1) Owners or operators of affected facilities (as defined in §§60.670 and 60.671) for which construction, modification, or reconstruction commenced on or after April 22, 2008, must record each periodic inspection required under §60.674(b) or (c), including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Administrator upon request.

(2) For each bag leak detection system installed and operated according to §60.674(d), the owner or operator must keep the records specified in paragraphs (b)(2)(i) through (iii) of this section.

(i) Records of the bag leak detection system output;

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and

(iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.

(3) The owner or operator of each affected facility demonstrating compliance according to §60.674(e) by following the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) must maintain records of visible emissions observations required by §63.7132(a)(3) and (b) of 40 CFR part 63, subpart AAAAA.

(c) During the initial performance test of a wet scrubber, and daily thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.

(d) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss and liquid flow rate decrease by more than 30 percent from the average determined during the most recent performance test.

(e) The reports required under paragraph (d) of this section shall be postmarked within 30 days following end of the second and fourth calendar quarters.

(f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672 of this subpart, including reports of opacity observations made using Method 9 (40 CFR part 60, Appendix A–4) to demonstrate compliance with §60.672(b), (e) and (f).

(g) The owner or operator of any wet material processing operation that processes saturated and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. At the time of such change, this screening operation, bucket elevator, or belt conveyor becomes subject to the applicable opacity limit in §60.672(b) and the emission test requirements of §60.11.

(h) The subpart A requirement under §60.7(a)(1) for notification of the date construction or reconstruction commenced is waived for affected facilities under this subpart.

(i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.

(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.

(2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.

(j) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected facilities within the State will be relieved of the obligation to comply with the reporting requirements of this section, provided that they comply with requirements established by the State.

(k) Notifications and reports required under this subpart and under subpart A of this part to demonstrate compliance with this subpart need only to be sent to the EPA Region or the State which has been delegated authority according to §60.4(b).

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

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

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

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

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

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

[a]Exceptions to the PM limit apply for individual enclosed storage bins and other equipment. See §60.672(d) through (f).

[b]The stack opacity limit and associated opacity testing requirements do not apply for affected facilities using wet scrubbers.

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Table 3 to Subpart OOO—Fugitive Emission Limits

Table 3 to Subpart OOO—Fugitive Emission Limits

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

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

Indiana Department of Environmental Management
Office of Air Quality

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

Source Description and Location

Source Name:	Milestone Contractors, L.P.
Source Location:	201 East Rampart Street, Shelbyville, Indiana 46176
County:	Shelby
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
Operation Permit No.:	F145-23091-03230
Operation Permit Issuance Date:	February 1, 2007
Significant Permit Revision No.:	F145-31102-03230
Permit Reviewer:	Hannah L. Desrosiers

On January 17, 2012, the Office of Air Quality (OAQ) had a notice published in the Shelbyville News, Shelbyville, Indiana, stating that Milestone Contractors, L.P. had applied for a revision to its Federally Enforceable State Operating Permit (FESOP) to increase the operational flexibility of their stationary source through the addition of blast furnace and electric arc furnace steel mill slag, and recycled shingles to their aggregate mix. Milestone has also requested approval to use additional cold-mix emulsions in the production cold-mix asphalt, and approval to perform onsite RAP crushing. The RAP crushing will be performed by a portable unit that will be moved from site to site on an as-needed basis. Finally, Milestone has requested that the baghouse instrument calibration requirement be revised to account for the seasonality of hot-mix asphalt production. The notice also stated that the OAQ proposed to issue a FESOP Significant Permit Revision for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

No comments were received during the public notice period.

Additional Changes

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD and supporting documents, but the Permit will contain the changes documented in this ATSD.

IDEM, OAQ has decided to make additional revisions to the permit, as described, as follows:

1. <u>Diesel fuel-fired portable crusher and screener - nonroad engine</u>
   Upon further review and additional information received from Milestone, IDEM determined that 40 CFR 60, Subpart IIII - NSPS for Stationary Compression Ignition Internal Combustion Engines and 40 CFR 63, Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines do not apply to the diesel fuel-fired portable crusher and screener (EU002), since the unit is moved from site to site on an as-needed basis, and never remaining in one location for more than several months at a time, thus the unit is considered a nonroad engine. To render the requirements of 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ not applicable and be enforceable, a permit requirement limiting the residence time of the unit in each location is necessary. Below is the detailed rule applicability determination:

a. 40 CFR 60, Subpart IIII - NSPS for Stationary Compression Ignition Internal Combustion Engines

The requirements of the New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart IIII (4I) (326 IAC 12), are not included in the permit for the diesel fuel-fired portable crusher and screener (EU002), as follows:

Pursuant to 40 CFR 60.4219, *Stationary internal combustion engine (ICE)* means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary ICE is not a *nonroad engine* as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle or a vehicle used solely for competition. Stationary ICE include; reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Pursuant to 40 CFR 1068.30, *Nonroad engine* means:

(1) Except as discussed in paragraph (2) of this definition, a nonroad engine is an internal combustion engine that meets any of the following criteria:

(A) It is (or will be) used in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers).

(B) It is (or will be) used in or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers).

(C) By itself or in or on a piece of equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.

(2) An internal combustion engine is <u>not</u> a *nonroad engine* if it meets any of the following criteria:

(A) The engine is used to propel a motor vehicle, an aircraft, or equipment used solely for competition.

(B) The engine is regulated under 40 CFR part 60, (or otherwise regulated by a federal New Source Performance Standard promulgated under section 111 of the Clean Air Act (42 U.S.C. 7411)).

(C) The engine otherwise included in paragraph (1)(iii) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine (or engines) that replace(s) an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A

seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location approximately three months (or more) each year. See §1068.31 for provisions that apply if the engine is removed from the location.

IDEM, OAQ has determined that based on information submitted by Milestone, the diesel fuel-fired portable crusher and screener (EU002) may be considered a nonroad engine for the purposes of 40 CFR 60, Subpart IIII applicability, provided it meets the requirements of paragraph (2)(iii) of the definition of nonroad engine in 40 CFR 1068.30. Therefore, the requirements of 40 CFR 60, Subpart IIII are not applicable to the diesel fuel-fired portable crusher and screener (EU002), provided it meets the following requirements:

(1) The diesel fuel-fired portable RAP crusher and screener shall remain at a location for a period not to exceed twelve (12) consecutive months.

(2) Any diesel fuel-fired portable RAP crusher and screener that replaces a diesel fuel-fired portable RAP crusher and screener at a location and that is intended to perform the same or similar function as the diesel fuel-fired portable RAP crusher and screener replaced will be included in calculating the consecutive time period.

(3) For the purposes of this condition and pursuant to 40 CFR 1068.30 Nonroad Engine (2)(iii), a location is any single site at a building, structure, facility, or installation.

b. <u>40 CFR 63, Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines</u>

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63.6580, Subpart ZZZZ (4Z) (326 IAC 20-84), are not included in the permit for the diesel fuel-fired portable crusher and screener (EU002), as follows:

Pursuant to 40 CFR 60.4219, *Stationary internal combustion engine (ICE)* means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary ICE is not a *nonroad engine* as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle or a vehicle used solely for competition. Stationary ICE include; reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

See paragraph (a) above for the definition of nonroad engine. IDEM, OAQ has determined that based on information submitted by Milestone, the diesel fuel-fired portable crusher and screener (EU002) may be considered a nonroad engine for the purposes of 40 CFR 63, Subpart ZZZZ applicability, provided it meets the requirements of paragraph (2)(iii) of the definition of nonroad engine in 40 CFR 1068.30. Therefore, the requirements of 40 CFR 60, Subpart ZZZZ are not applicable to the diesel fuel-fired portable crusher and screener (EU002), provided it meets the following requirements:

(1) The diesel fuel-fired portable RAP crusher and screener shall remain at a location for a period not to exceed twelve (12) consecutive months.

(2) Any diesel fuel-fired portable RAP crusher and screener that replaces a diesel fuel-fired portable RAP crusher and screener at a location and that is

intended to perform the same or similar function as the diesel fuel-fired portable RAP crusher and screener replaced will be included in calculating the consecutive time period.

(3) For the purposes of this condition and pursuant to 40 CFR 1068.30 Nonroad Engine (2)(iii), a location is any single site at a building, structure, facility, or installation.

A new Section E.3 - NSPS & NESHAP Requirements, has been added to the permit to incorporate the requirements described above. Additionally, a reporting form has been added to the end of the permit, and finally, for clarity, a note has been added to the emission unit description for the diesel fuel-fired crusher and screener indicating that the unit is considered a nonroad vehicle under 40 CFR 60, 1068.30(2)(iii), General Compliance Provisions for Highway, Stationary, and Nonroad Programs.

c. PTE for PSD and Title V applicability
Since the crusher was been determined a nonroad vehicle under 40 CFR 60, and 40 CFR 63, IDEM has determined that the criteria pollutant emissions should not be counted toward PSD and Title V applicability. Therefore, the emissions calculations have been revised accordingly, as demonstrated in ATSD Appendix A. Additionally, summary of the revision can be found on the following page (6 of 19) of this ATSD.

2. Single HAP Requirements - Waste Oil
Upon further review, and in order to preserve the FESOP status of the source, IDEM, OAQ has determined that an annual single HAP emission limit for HCL (tons/yr) be added to the permit. Compliance with this limit, combined with the potential to emit HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

Accordingly, Condition D.1.3(c) - Multiple Fuel and Slag Usage Limitation, has been revised to include the new annual HCl emission limit, Condition D.1.12 - Multiple Fuel and Slag Usage, has been revised to include a corresponding compliance determination requirement, and finally the FESOP Quarterly Report Form for Fuel & Slag Usage has been revised to include HCL reporting requirements.

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Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)									
	PM	PM_{10}*	$PM_{2.5}$**	SO_2	NO_x	VOC	CO	GHGs** as CO2e	Total HAPs	Worst Single HAP
Ducted/Ductable Emissions										
Dryer Fuel Combustion (worst case) (1)	44.52	35.48	35.48	75.19	74.55	2.16	32.96	47,434.22	10.34	9.00 (HCL)
Dryer/Mixer (2) (Process)	161.64	71.51	86.72	37.90	35.94	20.91	84.94	21,727.14	6.96	2.03 (formaldehyde)
Dryer/Mixer Slag Processing (3)	0	0	0	18.50	0	0	0	0	0	N/A
Hot Oil Heater Fuel Combustion (worst case)	0.11	0.18	0.18	3.78	1.06	0.04	0.63	1,202.06	0.017	0.013 (hexane)
Astec Crusher Fuel Combustion α	~~1.64~~ **N/A**	~~1.64~~ **N/A**	~~1.64~~ **N/A**	~~1.54~~ **N/A**	~~23.29~~ **N/A**	~~1.91~~ **N/A**	~~5.04~~ **N/A**	872.98	0.051	0.016 (formaldehyde)
Worst Case Emissions*β	~~169.39~~ **161.74**	~~73.33~~ **71.69**	~~88.54~~ **86.90**	~~99.00~~ **97.46**	~~99.00~~ **75.61**	~~22.86~~ **20.95**	~~96.01~~ **85.57**	49,509.25	10.37	9.00 (HCL)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, and On-Site Yard (3)	0.72	0.72	0.72	0	0	11.19	1.88	0	0.19	0.06 (formaldehyde)
Material Storage Piles	1.02	0.36	0.36	0	0	0	0	0	0	N/A
Material Processing and Handling (3)	4.22	2.00	0.30	0	0	0	0	0	0	N/A
Material Screening, and Conveying (3)	20.73	7.57	7.57	0	0	0	0	0	0	N/A
Unpaved and Paved Roads (worst case) (1)	58.92	15.02	1.50	0	0	0	0	0	0	N/A
Cold Mix Asphalt Production (4)	0	0	0	0	0	53.44	0	0	13.94	4.81 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	N/A
Volatile Organic Liquid Storage Vessels ***	0	0	0	0	0	negl.	0	0	negl.	negl.
Total Fugitive Emissions	85.61	25.67	10.46	0	0	64.63	1.88	0	14.13	4.81 (xylenes)
Total Limited/ Controlled Emissions	~~249.00~~ **247.36**	~~99.00~~ **97.36**	~~99.00~~ **97.36**	~~99.00~~ **97.46**	~~99.00~~ **75.61**	~~87.48~~ **85.58**	~~92.49~~ **87.45**	49,509.25	10.37	9.00 (HCL)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	N/A	250	250	250	250	100,000	N/A	N/A
Emission Offset/ Nonattainment NSR Major Source Thresholds	N/A	N/A	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A

negl = negligible N/A = Not applicable

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". Additionally, US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

** The 100,000 CO2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

*** Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible.

α **The crusher has been determined a nonroad vehicle under 40 CFR 60, and 40 CFR 63, therefore, the criteria pollutant emissions are not counted toward PSD and Title V applicability.**

β Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer Process + Worst Case Emissions from Hot Oil Heater Fuel Combustion + Emissions from Genset Generator + Emissions from Astec Crusher.

(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 annual production limit to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP).

(4) 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. Any control equipment is considered federally enforceable only after issuance of this FESOP permit revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. *(Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted)*

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Process/ Emission Unit	Potential To Emit of the Entire Source after Issuance of Revision (tons/year)									
	PM	PM_{10}*	$PM_{2.5}$**	SO_2	NO_x	VOC	CO	GHGs** as CO2e	Total HAPs	Worst Single HAP
Ducted/Ductable Emissions										
Dryer Fuel Combustion (worst case) (1)	44.52	35.48	35.48	75.19	74.55	2.16	32.96	47,434.22	10.34	9.00 (HCL)
Dryer/Mixer (2) (Process)	161.64	71.51	86.72	37.90	35.94	20.91	84.94	21,727.14	6.96	2.03 (formaldehyde)
Dryer/Mixer Slag Processing (3)	0	0	0	18.50	0	0	0	0	0	N/A
Hot Oil Heater Fuel Combustion (worst case)	0.11	0.18	0.18	3.78	1.06	0.04	0.63	1,202.06	0.017	0.013 (hexane)
Terex Crusher Fuel Combustion α	N/A	N/A	N/A	N/A	N/A	N/A	N/A	872.98	0.051	0.016 (formaldehyde)
Worst Case Emissions β	**161.74**	**71.69**	**86.90**	**97.46**	**75.61**	**20.95**	**85.57**	**49,509.25**	**10.37**	**9.00 (HCL)**
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, and On-Site Yard (3)	0.72	0.72	0.72	0	0	11.19	1.88	0	0.19	0.06 (formaldehyde)
Material Storage Piles	1.02	0.36	0.36	0	0	0	0	0	0	N/A
Material Processing and Handling (3)	4.22	2.00	0.30	0	0	0	0	0	0	N/A
Material Screening, and Conveying (3)	20.73	7.57	7.57	0	0	0	0	0	0	N/A
Unpaved and Paved Roads (worst case) (1)	58.92	15.02	1.50	0	0	0	0	0	0	N/A
Cold Mix Asphalt Production (4)	0	0	0	0	0	53.44	0	0	13.94	4.81 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	N/A
Volatile Organic Liquid Storage Vessels ***	0	0	0	0	0	negl.	0	0	negl.	negl.
Total Fugitive Emissions	**85.61**	**25.67**	**10.46**	**0**	**0**	**64.63**	**1.88**	**0**	**14.13**	**4.81 (xylenes)**
Total Limited/ Controlled Emissions	**247.36**	**97.36**	**97.36**	**97.46**	**75.61**	**85.58**	**87.45**	**49,509.25**	**10.37**	**9.00 (HCL)**
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	N/A	250	250	250	250	100,000	N/A	N/A
Emission Offset/ Nonattainment NSR Major Source Thresholds	N/A	N/A	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A

negl = negligible N/A = Not applicable

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". Additionally, US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

** The 100,000 CO2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

*** Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible.

α The crusher has been determined a nonroad vehicle under 40 CFR 60, and 40 CFR 63, therefore, the criteria pollutant emissions are not counted toward PSD and Title V applicability.

β Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer Process + Worst Case Emissions from Hot Oil Heater Fuel Combustion + Emissions from Genset Generator + Emissions from Astec Crusher.

(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 annual production limit to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP).

(4) Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP).

3. On October 27, 2010, the Indiana Air Pollution Control Board issued revisions to 326 IAC 2. These revisions resulted in changes to the rule sites 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. IDEM, OAQ has clarified the rule sites for the Preventive Maintenance Plan.

4. IDEM, OAQ has clarified the Permittee's responsibility with regards to record keeping.

5. IDEM, OAQ has clarified the interaction of the Quarterly Deviation and Compliance Monitoring Report and the Emergency Provisions.

6. Permit Condition D.1.3(b), has been revised to include the use of slag in the descriptive statement.

7. Permit Condition D.1.5, has been revised for clarity. Since there is only 1 item in the list, the numbering has been removed. Additionally, the description of the RAP crusher and screener has been corrected.

8. Permit Condition D.1.9(b), has been revised to update the reference which defines the Permittee's obligation regarding the requirement.

9. Permit Condition D.1.17(d), has been revised for consistency and clarity.

10. Permit Condition D.2.3(a), has been revised for clarification since it does not appear to include record keeping requirements for the emulsion asphalt binders and other asphalt binders listed in Condition D.2.2.

11. The FESOP Quarterly Report Form for Fuel & Slag Usage / SO2 & NOx emissions has been revised to correct the facility to which the report applies.

12. IDEM, OAQ does not make any changes to the original TSD and supporting documents, therefore, corrections to the information contained within are addressed as follows:

    a. The TSD Appendix A.2: Limited Emissions Summary for Greenhouse Gas emissions from the diesel fuel-fired crusher, page 10 of 19, has been revised to remove the note pertaining to limiting combined CO2e emissions, as demonstrated in ATSD Appendix A.2: Limited Emissions Calculations for Greenhouse Gas emissions from the diesel fuel-fired crusher, page 10 of 19, since the unlimited potential to emit CO2e from this source is less than 100,000 tons/yr and no limit is needed for compliance with 326 IAC 2-8-4 (FESOP), or to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

    b. All references to “greenhouse warming potential” (GWP) in TSD Appendices A.1 and A.2: Emission Calculations, have been revised to “global warming potential’ (GWP), as included the rule. This change has been documented in ATSD Appendices A.1 and A.2:

The Permit has been revised as follows, with deleted language shown as ~~strikeouts~~ and new language **bolded**. Permit conditions and the Table of Contents have been renumbered as needed to accommodate the above-listed revisions.

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:

******

(h) One (1) 173 horsepower, diesel fuel-fired portable RAP crusher and screener for processing reclaimed asphalt pavement (RAP), identified as EU002, approved for

construction in 2012, with a maximum throughput capacity of 200 tons of RAP per hour; and

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

Under 40 CFR 60, 1068.30(2)(iii), General Compliance Provisions for Highway, Stationary, and Nonroad Programs, this unit this is considered a nonroad engine.

******

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B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]~~[326 IAC 2-8-5(a)(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)(2), (c)(1), and (d)~~ **(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)(2), (c)(1), and (d)~~ **(b)(1) and (c).**

(b) Emission Trades [326 IAC 2-8-15 ~~(c)~~ **(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)~~ **(b)**.

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

******

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

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

(1) All calibration and maintenance records.

(2) All original strip chart recordings for continuous monitoring instrumentation.

(3) Copies of all reports required by the FESOP.

Records of required monitoring information include the following:

(4) The date, place, as defined in this permit, and time of sampling or measurements.

(5) The dates analyses were performed.

(6) The company or entity that performed the analyses.

(7) The analytical techniques or methods used.

(8) The results of such analyses.

(9) 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.

******

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

Emissions Unit Description: Hot-mix Asphalt Plant, and RAP Crusher & Screener.

******

(h) One (1) 173 horsepower, diesel fuel-fired portable RAP crusher and screener for processing reclaimed asphalt pavement (RAP), identified as EU002, approved for construction in 2012, with a maximum throughput capacity of 200 tons of RAP per hour; and

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

Under 40 CFR 60, 1068.30(2)(iii), General Compliance Provisions for Highway, Stationary, and Nonroad Programs, this unit this is considered a nonroad engine.

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D.1.3 FESOP Limits: SO2, NOx, 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 326 IAC 2-2 and 326 IAC 2-4.1 not applicable, the Permittee shall comply with the following:

******

(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:

******

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

******

(3) HCl emissions from the dryer/mixer shall not exceed 9.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

******

D.1.5 Particulate Emission Limits [326 IAC 6-3]

~~(a)~~ Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the ~~existing portable recycled asphalt pavement (RAP) system~~ **diesel fuel-fired portable RAP crusher and screener** shall not exceed 58.51 pounds per hour when operating at a process weight rate of 200 tons (or 400,000 pounds) per hour.

******

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

******

(b) In order to demonstrate compliance with Condition D.1.3(a)(~~7~~**6**), when using Blast Furnace slag, the Permittee shall perform SO2 testing for the aggregate dryer within one hundred eighty (180) days of initial use of Blast Furnace slag in the aggregate mix, utilizing methods as approved by the Commissioner. Testing shall only be performed if the company has not previously performed SO2 testing while using Blast Furnace slag in the aggregate mix at one of their other Indiana facilities. Testing shall be conducted in accordance with ~~Section C- Performance Testing~~**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.**

******

D.1.12 Multiple Fuel and Slag Usage

******

(c) Hydrogen Chloride (HCL) Emission Calculation

$$\mathbf{HCL = \frac{W(E_W)}{2000\ lbs/ton}}$$

where:
HCl = tons of hydrogen chloride emissions for a 12-month consecutive period
W = gallons of waste oil used in the in the dryer/mixer in the last 12 months.

Emission Factor
E_W = 13.2 lb/1000 gallons of waste oil.

******

D.1.17 Record Keeping Requirements

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(d) To document the compliance status with Condition D.1.14, the Permittee shall maintain records **once per day** of **the** visible emission notations ~~of the dryer/mixer stack (SV-1) exhaust once per day~~. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

******

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

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D.2.3 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.2(c)(1) through (5), the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.2.2(c)(1) through (5).

******

(2) **Actual** ~~Cutback~~ asphalt binder usage in the production of cold mix asphalt since the last compliance determination period;

(3) **Actual** VOC solvent content by weight of the ~~cutback~~ asphalt binder used in the production of cold mix asphalt since the last compliance determination period; and

(4) **Actual** ~~A~~amount of VOC solvent used in the production of cold mix asphalt, and the amount of VOC emitted since the last compliance determination period.

******

SECTION E.2 NSPS REQUIREMENTS

Emissions Unit Description: Recycled Asphalt Pavement (RAP) Crushing & Screening Operation

(h) One (1) 173 horsepower, diesel fuel-fired portable RAP crusher and screener for processing reclaimed asphalt pavement (RAP), identified as EU002, approved for construction in 2012, with a maximum throughput capacity of 200 tons of RAP per hour; and

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

Under 40 CFR 60, 1068.30(2)(iii), General Compliance Provisions for Highway, Stationary, and Nonroad Programs, this unit this is considered a nonroad engine.

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

******

SECTION E.3 NSPS & NESHAP REQUIREMENTS

Emissions Unit Description [326 IAC 2-8-4(10)]: Recycled Asphalt Pavement (RAP) Crushing & Screening Operation

(g) One (1) 173 horsepower, diesel fuel-fired portable RAP crusher and screener for processing reclaimed asphalt pavement (RAP), identified as EU002, approved for

construction in 2012, with a maximum throughput capacity of 200 tons of RAP per hour; and

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

Under 40 CFR 60, 1068.30(2)(iii), General Compliance Provisions for Highway, Stationary, and Nonroad Programs, this unit this is considered a nonroad engine.

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

E.3.1 Nonroad Engines [326 IAC 12][40 CFR 60, Subpart IIII][326 IAC 20-82][40 CFR 63, Subpart ZZZZ][40 CFR 1068.30]

In order to render the requirements of the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR Part 60, Subpart IIII), which are incorporated by reference as 326 IAC 12, and the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ), which are incorporated by reference as 326 IAC 20-82, not applicable, and to ensure the diesel fuel-fired portable RAP crusher and screener is a nonroad engine, as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), the Permittee shall comply with the following:

(a) The diesel fuel-fired portable RAP crusher and screener shall remain at a location for a period not to exceed twelve (12) consecutive months.

(b) Any diesel fuel-fired portable RAP crusher and screener that replaces a diesel fuel-fired portable RAP crusher and screener at a location and that is intended to perform the same or similar function as the diesel fuel-fired portable RAP crusher and screener replaced will be included in calculating the consecutive time period.

(c) For the purposes of this condition, and pursuant to 40 CFR 1069.30 Nonroad Engine (2)(iii), a location is any single site at a building, structure, facility, or installation.

Compliance with these limits shall render the requirements of the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR Part 60, Subpart IIII) and the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ) not applicable.

E.3.2 Record Keeping Requirements

(a) To document the compliance status with Condition E.3.1(a), the Permittee shall maintain records of the dates of installation and removal of the diesel fuel-fired portable RAP crusher and screener as the unit is installed and removed.

(b) To document the compliance status with Condition E.3.1(b), the Permittee shall maintain records of the make, model, horsepower rating, manufacture

date, and model year of each diesel fuel-fired portable RAP crusher and screener brought onto the site.

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

E.3.3 Reporting Requirements

A quarterly summary of the information to document compliance status with Conditions E.3.1(a) and E.3.1(b), shall be submitted using the reporting form located at the end of this permit, or its equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The 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).

******

FESOP Quarterly Report

Source Name:	Milestone Contractors, L.P.
Source Address:	201 East Rampart Street, Shelbyville, Indiana 46176
FESOP No.:	F145-23091-03230
Facility:	Dryer/Mixer ~~and Diesel Fuel-Fired Portable RAP Crusher & Screener~~
Parameter:	Fuel & Slag Usage / SO2**,** ~~&~~ NOx**, & HCL** emissions
Emission Limits:	*Sulfur dioxide (SO_2)* emissions shall not exceed 88.57 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12(a).
	******
	Hydrogen Chloride (HCL) **emissions shall not exceed 9.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12(c).**

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FESOP Quarterly Report - Fuel & Slag Usage / SO2**, &** NOx**, & HCL** emissions

QUARTER:_____ YEAR: _____

Month	Fuel Types / 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)	Nitrogen Oxides (NOx) Emissions (tons per 12 months)	**Hydrogen Chloride (HCl) Emissions (tons per 12 months)**
Month 1	Natural gas (MMCF)						
	No. 2 Fuel Oil (gallons)						
	Waste Fuel Oil (gallons)						
	Blast Furnace Slag (tons)						
	Steel Slag Usage (tons)						
Month 2	Natural gas (MMCF)						
	No. 2 Fuel Oil (gallons)						
	Waste Fuel Oil (gallons)						
	Blast Furnace Slag (tons)						
	Steel Slag Usage (tons)						
Month 3	Natural gas (MMCF)						
	No. 2 Fuel Oil (gallons)						
	Waste Fuel 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: _____

******

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

FESOP Quarterly Report

Source Name: **Milestone Contractors, L.P.**
Source Address: **201 East Rampart Street, Shelbyville, Indiana 46176**
FESOP No.: **F145-23091-03230**

Facility: **Diesel Fuel-Fired Portable RAP Crusher and Screener, identified as EU002**

Limit: **The diesel fuel-fired portable RAP crusher and screener shall remain at a location for a period not to exceed twelve (12) consecutive months.**

Manufacture Date: _____ **Installation Date:** _____

Make: _____ **Removal Date:** _____

Model: _____ **Model Year:** _____

Horsepower Rating: _____ **MMBtu/hr Rating:** _____

QUARTER:_____ **YEAR:**_____

Month	Column 1	Column 2	Column 1 - Column 2
	Number of Days Onsite This Month	Number of Days Onsite Previous 11 Months	12 Month Total Number of Days Onsite
Month 1			
Month 2			
Month 3			

Submitted by: _____

Title / Position:_____

Signature: _____

Date: _____

Phone: _____

******

QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
FESOP No.: F145-23091-03230

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 other changes have been made to the permit.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Ms. Hannah Desrosiers at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5374 or toll free at 1-800-451-6027 extension 4-5374.

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

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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Asphalt Plant Maximum Capacity - Drum Mix

Maximum Hourly Asphalt Production =	400	ton/hr								
Maximum Annual Asphalt Production =	3,504,000	ton/yr								
Maximum Annual Blast Furnace Slag Usage =	1,471,680	ton/yr	1.50	% sulfur						
Maximum Annual Steel Slag Usage =	1,471,680	ton/yr	0.66	% sulfur						
Maximum Dryer Fuel Input Rate =	135.0	MMBtu/hr								
Natural Gas Usage =	1,183	MMCF/yr								
No. 2 Fuel Oil Usage =	8,447,143	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						
Butane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	8,447,143	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead
Diesel Fuel Oil Usage (crusher only) =	77,433	gal/yr.	0.50	% sulfur						
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production								
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production								
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production								
Unlimited SO2 Dryer/Mixer Emission Factor =	0.058	lb/ton of asphalt production								
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production								
Unlimited CO Dryer/Mixer Emission Factor =	0.130	lb/ton of asphalt production								
Unlimited Blast Furnace Slag SO2 Dryer/Mixer Emission Factor =	0.74	lb/ton of slag processed								
Unlimited Steel Slag SO2 Dryer/Mixer Emission Factor =	0.0014	lb/ton of slag processed								

Unlimited/Uncontrolled Emissions

	Unlimited/Uncontrolled Potential to Emit (tons/year)										
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants		
Process Description	**PM**	**PM10**	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**	**CO_2e**	**Total HAPs**	**Worst Case HAP**	
Ducted Emissions											
Dryer Fuel Combustion (worst case)	275.71	219.71	219.71	465.65	112.35	4.22	49.67	95,457.70	60.53	55.75	(hydrogen chloride)
Dryer/Mixer (Process)	49,056.00	11,388.00	2,628.00	101.62	96.36	56.06	227.76	58,257.50	18.68	5.43	(formaldehyde)
Dryer/Mixer Slag Processing (worst case)	0	0	0	544.52	0	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.11	0.18	0.18	3.78	1.06	0.04	0.63	1,202.06	0.017	0.013	(hexane)
Astec Crusher Fuel Combustion *	N/A	N/A	N/A	N/A	N/A	N/A	N/A	872.98	0.021	0.006	(formaldehyde)
Worst Case Emissions **	**49,056.11**	**11,388.18**	**2,628.18**	**1,013.95**	**113.41**	**56.10**	**228.39**	**97,532.74**	**60.57**	**55.75**	(hydrogen chloride)
Fugitive Emissions											
Asphalt Load-Out, Silo Filling, On-Site Yard	1.94	1.94	1.94	0	0	30.01	5.05	0	0.50	0.16	(formaldehyde)
Material Storage Piles	1.02	0.36	0.36	0	0	0	0	0	0	0	
Material Processing and Handling	11.32	5.35	0.81	0	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	55.59	20.31	20.31	0	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	157.98	40.26	4.03	0	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	42,109.32	0	0	10,983.67	3,789.84	(xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0	0.00	0.00	(xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0	
Total Fugitive Emissions	**227.85**	**68.22**	**27.44**	**0**	**0**	**42,139.33**	**5.05**	**0**	**10,984.17**	**3,789.84**	(xylenes)
Totals Unlimited/Uncontrolled PTE	**49,283.96**	**11,456.40**	**2,655.62**	**1,013.95**	**113.41**	**42,195.44**	**233.43**	**97,532.74**	**11,044.74**	**3,789.84**	(xylenes)

negl = negligible
Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.
* The crusher has been determined a nonroad vehicle under 40 CFR 60, and 40 CFR 63, therefore, the criteria pollutant emissions are not counted toward PSD and TV applicablilty.
** 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
Fuel component percentages provided by the source.

ATSD Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/h

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Maximum Capacity

Maximum Hourly Asphalt Production =	400	ton/hr								
Maximum Annual Asphalt Production =	3,504,000	ton/yr								
Maximum Fuel Input Rate =	135	MMBtu/hr								
Natural Gas Usage =	1,183	MMCF/yr								
No. 2 Fuel Oil Usage =	8,447,143	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						
Butane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	8,447,143	gal/yr, and	0.75	% sulfur	1.02	% ash	0.200	% chlorine,	0.010	% lead

Unlimited/Uncontrolled Emissions

	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	7.0	3.22	0.5	0.6	65.3	1.12	8.45	0	0	0	0	275.71	**275.71**
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	52.02	4.49	13.94	0	0	0	0	219.71	**219.71**
SO2	0.6	71.0	0	0	0	0	110.3	0.35	299.87	0	0	0	0	465.65	**465.65**
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	112.35	101.37	0	0	0	0	80.25	**112.35**
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	3.25	0.84	0	0	0	0	4.22	**4.22**
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	49.6692	21.12	0	0	0	0	21.12	**49.67**
Hazardous Air Pollutant															
HCl							13.2							55.75	**55.75**
Antimony			5.25E-03	5.25E-03			negl			0	0			negl	**0**
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	1.2E-04	2.37E-03	0	0			4.65E-01	**0.46**
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	7.1E-06	1.77E-03	0	0			negl	**1.8E-03**
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	6.5E-04	1.77E-03	0	0			3.93E-02	**0.04**
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	8.3E-04	1.77E-03	0	0			8.45E-02	**0.08**
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	5.0E-05		0	0			8.87E-04	**8.9E-04**
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	3.0E-04	5.32E-03	0	0			2.3E+00	**2.32**
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	2.2E-04	3.55E-03	0	0			2.87E-01	**0.29**
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.5E-04	1.77E-03	0	0				**1.8E-03**
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	1.2E-03	1.77E-03	0	0			4.65E-02	**0.05**
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.4E-05	8.87E-03	0	0			negl	**8.9E-03**
1.1.1-Trichloroethane			2.36E-04	2.36E-04						0	0				**0**
1,3-Butadiene															**0**
Acetaldehyde															**0**
Acrolein															**0**
Benzene	2.1E-03		2.14E-04	2.14E-04				1.2E-03		0	0				**1.2E-03**
Bis(2-ethylhexyl)phthalate							2.2E-03							9.29E-03	**9.3E-03**
Dichlorobenzene	1.2E-03						8.0E-07	7.1E-04						3.38E-06	**7.1E-04**
Ethylbenzene			6.36E-05	6.36E-05						0	0				**0**
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				4.4E-02	2.58E-01	0	0				**0.26**
Hexane	1.8E+00							1.06							**1.06**
Phenol							2.4E-03							1.01E-02	**1.0E-02**
Toluene	3.4E-03		6.20E-03	6.20E-03				2.0E-03		0	0				**2.0E-03**
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0	0			1.65E-01	**0.17**
Polycyclic Organic Matter		3.30E-03							1.39E-02						**0.01**
Xylene			1.09E-04	1.09E-04						0	0				**0**
							Total HAPs	**1.12**	**0.30**	**0**	**0**	**0**	**0**	**59.18**	**60.53**

Methodology

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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Maximum Capacity

Maximum Hourly Asphalt Production =	400	ton/hr								
Maximum Annual Asphalt Production =	3,504,000	ton/yr								
Maximum Fuel Input Rate =	135	MMBtu/hr								
Natural Gas Usage =	1,183	MMCF/yr								
No. 2 Fuel Oil Usage =	8,447,143	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage =	0	gal/yr, and	0	% sulfur						
Refinery Blend, and 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						
Butane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	8,447,143	gal/yr, and	0.75	% sulfur	1.02	% ash	0.200	% chlorine,	0.010	% lead

Unlimited/Uncontrolled Emissions

	Emission Factor (units)							Global Warming Potentials (GWP)		
CO2e Fraction	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO2	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO_2	1
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH_4	21
N2O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N_2O	310

	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
CO2e Fraction	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)
CO2	71,051.70	95,036.31	0	0	0	0	93,020.59
CH4	1.47	3.86	0	0	0	0	3.77
N2O	1.30	1.10	0	0	0	0	0.76
Total	71,054.47	95,041.27	0	0	0	0	93,025.12
CO2e Equivalent Emissions (tons/yr)	71,485.93	95,457.70	0	0	0	0	93,335.46

CO2e for Worst Case Fuel* (tons/yr)
95,457.70

Methodology
Fuel Usage from TSD Appendix A.1, page 1 of 14.
Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]
Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

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

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

No.4 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

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

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

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

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

Emission Factor (EF) Conversions

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

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

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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Maximum Hourly Asphalt Production = 400 ton/hr
Maximum Annual Asphalt Production = 3,504,000 ton/yr

	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	**Worse Case PTE**
PM*	28	28	28	49,056.00	49,056.00	49,056.00	**49,056.00**
PM10*	6.5	6.5	6.5	11,388.00	11,388.00	11,388.00	**11,388.00**
PM2.5*	1.5	1.5	1.5	2,628.00	2,628.00	2,628.00	**2,628.00**
SO2**	0.0034	0.011	0.058	5.96	19.27	101.62	**101.62**
NOx**	0.026	0.055	0.055	45.55	96.36	96.36	**96.36**
VOC**	0.032	0.032	0.032	56.06	56.06	56.06	**56.06**
CO***	0.13	0.13	0.13	227.76	227.76	227.76	**227.76**
Hazardous Air Pollutant							
HCl			2.10E-04			3.68E-01	**0.37**
Antimony	1.80E-07	1.80E-07	1.80E-07	3.15E-04	3.15E-04	3.15E-04	**3.15E-04**
Arsenic	5.60E-07	5.60E-07	5.60E-07	9.81E-04	9.81E-04	9.81E-04	**9.81E-04**
Beryllium	negl	negl	negl	negl	negl	negl	**0**
Cadmium	4.10E-07	4.10E-07	4.10E-07	7.18E-04	7.18E-04	7.18E-04	**7.18E-04**
Chromium	5.50E-06	5.50E-06	5.50E-06	9.64E-03	9.64E-03	9.64E-03	**9.64E-03**
Cobalt	2.60E-08	2.60E-08	2.60E-08	4.56E-05	4.56E-05	4.56E-05	**4.56E-05**
Lead	6.20E-07	1.50E-05	1.50E-05	1.09E-03	2.63E-02	2.63E-02	**0.03**
Manganese	7.70E-06	7.70E-06	7.70E-06	1.35E-02	1.35E-02	1.35E-02	**0.01**
Mercury	2.40E-07	2.60E-06	2.60E-06	4.20E-04	4.56E-03	4.56E-03	**4.56E-03**
Nickel	6.30E-05	6.30E-05	6.30E-05	0.11	0.11	0.11	**0.11**
Selenium	3.50E-07	3.50E-07	3.50E-07	6.13E-04	6.13E-04	6.13E-04	**6.13E-04**
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.07	0.07	0.07	**0.07**
Acetaldehyde			1.30E-03			2.28	**2.28**
Acrolein			2.60E-05			4.56E-02	**0.05**
Benzene	3.90E-04	3.90E-04	3.90E-04	0.68	0.68	0.68	**0.68**
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.42	0.42	0.42	**0.42**
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	5.43	5.43	5.43	**5.43**
Hexane	9.20E-04	9.20E-04	9.20E-04	1.61	1.61	1.61	**1.61**
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.08	0.08	0.08	**0.08**
MEK			2.00E-05			0.04	**0.04**
Propionaldehyde			1.30E-04			0.23	**0.23**
Quinone			1.60E-04			0.28	**0.28**
Toluene	1.50E-04	2.90E-03	2.90E-03	0.26	5.08	5.08	**5.08**
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.33	1.54	1.54	**1.54**
Xylene	2.00E-04	2.00E-04	2.00E-04	0.35	0.35	0.35	**0.35**
						Total HAPs	**18.68**
						Worst Single HAP	**5.43 (formaldehyde)**

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

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

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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Maximum Hourly Asphalt Production =	400	ton/hr
Maximum Annual Asphalt Production =	3,504,000	ton/yr

	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)				Unlimited/Uncontrolled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil	Global Warming Potentials (GWP)	Natural Gas	No. 2 Fuel Oil	Waste Oil	**CO2e for Worst Case Fuel (tons/yr)**
CO2	33	33	33	1	57,816.00	57,816.00	57,816.00	**58,257.50**
CH4	0.0120	0.0120	0.0120	21	21.02	21.02	21.02	
N2O				310	0	0	0	
				Total	57,837.02	57,837.02	57,837.02	
				CO2e Equivalent Emissions (tons/yr)	58,257.50	58,257.50	58,257.50	

Methodology
Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8
There are no emission factors for N20 available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N2O emission anticipated from this process.

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

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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Maximum Annual Blast Furnace Slag Usage* =	1,471,680	ton/yr	1.50	% sulfur
Maximum Annual Steel Slag Usage* =	1,471,680	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	544.52
Steel Slag	0.0014	1.03

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

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

** Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.
Unlimited Potential to Emit SO2 from Slag (tons/yr) = [(Maximum Annual Slag Usage (ton/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]

Abbreviations
SO2 = Sulfur Dioxide

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate =	1.70	MMBtu/hr	*(includes one (1) @ 0.45 MMBtu/hr and one (1) @ 1.25 MMBtu/hr)*	
Natural Gas Usage =	15	MMCF/yr		
No. 2 Fuel Oil Usage =	106,371	gal/yr, and	0.50	% sulfur

Unlimited/Uncontrolled Emissions

	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	0.014	0.106	**0.11**
PM10/PM2.5	7.6	3.3	0.057	0.176	**0.18**
SO2	0.6	71.0	0.004	3.776	**3.78**
NOx	100	20.0	0.745	1.064	**1.06**
VOC	5.5	0.20	0.041	0.011	**0.04**
CO	84	5.0	0.625	0.266	**0.63**
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.5E-06	2.98E-05	**3.0E-05**
Beryllium	1.2E-05	4.2E-04	8.9E-08	2.23E-05	**2.2E-05**
Cadmium	1.1E-03	4.2E-04	8.2E-06	2.23E-05	**2.2E-05**
Chromium	1.4E-03	4.2E-04	1.0E-05	2.23E-05	**2.2E-05**
Cobalt	8.4E-05		6.3E-07		**6.3E-07**
Lead	5.0E-04	1.3E-03	3.7E-06	6.70E-05	**6.7E-05**
Manganese	3.8E-04	8.4E-04	2.8E-06	4.47E-05	**4.5E-05**
Mercury	2.6E-04	4.2E-04	1.9E-06	2.23E-05	**2.2E-05**
Nickel	2.1E-03	4.2E-04	1.6E-05	2.23E-05	**2.2E-05**
Selenium	2.4E-05	2.1E-03	1.8E-07	1.12E-04	**1.1E-04**
Benzene	2.1E-03		1.6E-05		**1.6E-05**
Dichlorobenzene	1.2E-03		8.9E-06		**8.9E-06**
Ethylbenzene					**0**
Formaldehyde	7.5E-02	6.10E-02	5.6E-04	3.24E-03	**3.2E-03**
Hexane	1.8E+00		0.01		**0.013**
Phenol					**0**
Toluene	3.4E-03		2.5E-05		**2.5E-05**
Total PAH Haps	negl		negl		**0**
Polycyclic Organic Matter		3.30E-03		1.76E-04	**1.8E-04**
		Total HAPs =	**1.4E-02**	**3.8E-03**	**0.017**

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

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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate =	1.70	MMBtu/hr	*(includes one (1) @ 0.45 MMBtu/hr and one (1) @ 1.25 MMBtu/hr)*
Natural Gas Usage =	14.89	MMCF/yr	
No. 2 Fuel Oil Usage =	106,371.43	gal/yr,	0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units) Natural Gas (lb/MMCF)	Emission Factor (units) No. 2 Fuel Oil (lb/kgal)	Global Warming Potentials (GWP)	Potential to Emit (tons/yr) Natural Gas (tons/yr)	Potential to Emit (tons/yr) No. 2 Fuel Oil (tons/yr)	Worse Case CO2e Emissions (tons/yr)
CO2	120,161.84	22,501.41	1	894.73	1,196.75	**1,202.06**
CH4	2.49	0.91	21	0.02	0.05	
N2O	2.2	0.26	310	0.02	0.01	
				894.76	1,196.82	
CO2e Equivalent Emissions (tons/yr)				900.19	1,202.06	

Methodology

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

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

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

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

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

Emission Factor (EF) Conversions

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

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

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

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

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

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

ATSD Appendix A.1: Unlimited Emissions Calculations
Criteria Pollutant and Hazardous Air Pollutant (HAP) Emissions
from the Diesel Fuel-fired Portable Crusher
Reciprocating Internal Combustion Engines
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)

Company Name:	Milestone Contractors, L.P.
Source Address:	201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number:	F145-23091-03230
Revision Number:	F145-31102-03230
Reviewer:	Hannah L. Desrosiers
Date Received:	11/4/2011

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	173.0	Unlimited Potential Diesel Engine Oil Usage =	77,433	gal/yr
Maximum Operating Hours per Year	8760	Sulfur Content =	0.50	% sulfur
Unlimited Potential Throughput (hp-hr/yr)	1,515,480			

	Criteria Pollutants						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	42.47	42.47	42.47	39.73	604.17	49.32	130.15
Potential Emission in tons/yr	1.64	1.64	1.64	1.54	23.39	1.91	5.04

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

	Hazardous Air Pollutants (HAPs)							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/kgal****	1.28E-01	5.60E-02	3.90E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Potential Emission in tons/yr	4.95E-03	2.17E-03	1.51E-03	2.07E-04	**0.006**	4.07E-03	4.91E-04	8.91E-04

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/MMBtu were converted to lb/kgal using the heating value of diesel fuel oil (137,000 Btu/gal) as taken from AP 42 Appendix A (09/85), page A-5.

Potential Emission of Total Combined HAPs (tons/yr)	**0.021**

Notes
Constant: 1 kilogallon (kgal) = 1000 gallons (gal)
The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.
Emission Factors for Diesel Fuel Oil combustion are from AP 42 - 3.3 Gasoline and Diesel Industrial Engines (Supplement B 10/96), Tables 3.3-1 and 3.3-2

Methodology
Potential Throughput (hp-hr/yr) = Output Horsepower Rating (hp) * Maximum Operating Hours per Year
Unlimited Potential Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]
Unlimited Potential to Emit (tons/yr) = [(Unlimited Potential Diesel Engine Oil Usage (gal/yr)) * Emission Factor (lb/kgal)) / (1000 gal/kgal * 2,000 lb/ton)]

ATSD Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from the
Diesel Fuel-fired Portable Crusher
Reciprocating Internal Combustion Engines
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	173.0
Maximum Operating Hours per Year	8760
Potential Throughput (hp-hr/yr)	1,515,480

Diesel Engine Oil Usage[1] =	77,433	gal/yr
Sulfur Content =	0.50	% sulfur

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

	Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	CO2	CH4	N2O
Emission Factor in lb/kgal	22,472.92	0.91	0.18
Potential Emission in tons/yr	870.08	0.04	0.01
Summed Potential Emissions in tons/yr	870.12		
CO2e Equivalent Emissions (tons/yr)	**872.98**		

Notes
Constant: 1 kilogallon (kgal) = 1000 gallons (gal)
The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
Diesel Engine Oil: Emission Factor for CO2 from AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1, has been converted from lb/MMBtu to lb/kgal. Emission Factors for CH4 and N2O from 40 CFR Part 98 Subpart C, Table C-2, have been converted from kg/mmBtu to lb/kgal.
Emission Factor (EF) Conversion
for CO2: EF (lb/kgal) = [EF (lb/MMbtu) x average heating value of diesel (19,300 Btu/lb) x Conversion Factor (1/1,000,000 MMBtu/Btu) x density of diesel (7.1 lb/gal) x Conversion Factor (1,000 gal/kgal)
for CH4 & N2O: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Methodology
Potential Throughput (hp-hr/yr) = Output Horsepower Rating (hp) * Maximum Operating Hours per Year
Unlimited Potential Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]
Unlimited Potential to Emit (tons/yr) = [(Unlimited Potential Diesel Engine Oil Usage (gal/yr)) * Emission Factor (lb/kgal)) / (1000 gal/kgal * 2,000 lb/ton)]
Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O (ton/yr) x N2O GWP (310).

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	3,504,000	tons/yr

	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
Pollutant	**Load-Out**	**Silo Filling**	**On-Site Yard**	**Load-Out**	**Silo Filling**	**On-Site Yard**	**Total**
Total PM*	5.2E-04	5.9E-04	NA	0.91	1.03	NA	**1.94**
Organic PM	3.4E-04	2.5E-04	NA	0.60	0.445	NA	**1.04**
TOC	0.004	0.012	0.001	7.29	21.35	1.927	**30.6**
CO	0.001	0.001	3.5E-04	2.36	2.067	0.617	**5.05**

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

PM/HAPs	**0.042**	**0.050**	**0**	**0.093**
VOC/HAPs	**0.108**	**0.272**	**0.028**	**0.408**
non-VOC/HAPs	**5.6E-04**	**5.8E-05**	**1.5E-04**	**7.7E-04**
non-VOC/non-HAPs	**0.53**	**0.30**	**0.14**	**0.97**

Total VOCs	**6.85**	**21.35**	**1.8**	**30.0**
Total HAPs	**0.15**	**0.32**	**0.029**	**0.50**
			Worst Single HAP	**0.155 (formaldehyde)**

Methodology
The asphalt temperature and volatility factor were provided by the source.
Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16
Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14)::
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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Organic Particulate-Based Compounds (Table 11.1-15)

					Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
Pollutant	**CASRN**	**Category**	**HAP Type**	**Source**	**Load-out and Onsite Yard (% by weight of Total Organic PM)**	**Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)**	**Load-out**	**Silo Filling**	**Onsite Yard**	**Total**
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	1.6E-03	2.1E-03	NA	3.6E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	1.7E-04	6.2E-05	NA	2.3E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	4.2E-04	5.8E-04	NA	1.0E-03
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	1.1E-04	2.5E-04	NA	3.6E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	4.5E-05	0	NA	4.5E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	1.3E-05	0	NA	1.3E-05
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	1.1E-05	0	NA	1.1E-05
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	1.4E-05	0	NA	1.4E-05
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	4.7E-05	4.2E-05	NA	8.9E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	6.2E-04	9.3E-04	NA	1.5E-03
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	2.2E-06	0	NA	2.2E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	3.0E-04		NA	3.0E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	4.6E-03	4.5E-03	NA	9.1E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	2.8E-06	0	NA	2.8E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	1.4E-02	2.3E-02	NA	0.038
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	7.5E-03	8.1E-03	NA	1.6E-02
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	1.3E-04	1.3E-04	NA	2.6E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	4.8E-03	8.0E-03	NA	1.3E-02
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	9.0E-04	2.0E-03	NA	2.9E-03
Total PAH HAPs							**0.035**	**0.050**	**NA**	**0.086**
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	7.0E-03	0	0	7.0E-03

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

Methodology

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

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

Abbreviations

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

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

Organic Volatile-Based Compounds (Table 11.1-16)

					Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
Pollutant	**CASRN**	**Category**	**HAP Type**	**Source**	**Load-out and Onsite Yard (% by weight of TOC)**	**Silo Filling and Asphalt Storage Tank (% by weight of TOC)**	**Load-out**	**Silo Filling**	**Onsite Yard**	**Total**
VOC		VOC	---	TOC	94%	100%	**6.85**	**21.35**	**1.81**	**30.01**
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	4.7E-01	5.6E-02	1.3E-01	0.654
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	3.4E-03	1.2E-02	8.9E-04	0.016
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	5.2E-02	2.3E-01	1.4E-02	0.300
Total non-VOC/non-HAPS					7.30%	1.40%	**0.532**	**0.299**	**0.141**	**0.97**
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	3.8E-03	6.8E-03	1.0E-03	1.2E-02
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	7.0E-04	1.0E-03	1.9E-04	1.9E-03
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	3.6E-03	8.3E-03	9.4E-04	1.3E-02
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	9.5E-04	3.4E-03	2.5E-04	4.6E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	1.5E-05	8.5E-04	4.0E-06	8.7E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	1.1E-03	4.9E-03	2.9E-04	6.3E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	8.0E-03	0	2.1E-03	1.0E-02
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	2.0E-02	8.1E-03	5.4E-03	0.034
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	6.4E-03	1.5E-01	1.7E-03	0.155
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	1.1E-02	2.1E-02	2.9E-03	0.035
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	1.3E-04	6.6E-05	3.5E-05	2.3E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	5.8E-05	0	5.8E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	5.3E-04	1.2E-03	1.4E-04	1.8E-03
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	5.6E-04	0	1.5E-04	7.1E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	1.5E-02	1.3E-02	4.0E-03	0.033
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	9.5E-05	0	2.5E-05	1.2E-04
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	3.0E-02	4.3E-02	7.9E-03	0.080
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	5.8E-03	1.2E-02	1.5E-03	2.0E-02
Total volatile organic HAPs					1.50%	1.30%	**0.109**	**0.278**	**0.029**	**0.416**

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

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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.24	0.132	0.046
Limestone	1.6	1.85	0.92	0.311	0.109
RAP	0.5	0.58	1.38	0.146	0.051
Gravel	1.6	1.85	0.11	0.037	0.013
Slag	3.8	4.40	0.09	0.072	0.025
Shingles	3.8	4.40	0.40	0.321	0.112
			Totals	**1.02**	**0.36**

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
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PTE = Potential to Emit
RAP - recycled asphalt pavement

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Ef = k*(0.0032)*[(U/5)^1.3 / (M/2)^1.4]
where: Ef = Emission factor (lb/ton)

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

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,328,800	tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	3.77	1.78	0.27
Front-end loader dumping of materials into feeder bins	3.77	1.78	0.27
Conveyor dropping material into dryer/mixer or batch tower	3.77	1.78	0.27
Total (tons/yr)	**11.32**	**5.35**	**0.81**

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

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	8.99	3.99
Screening	0.025	0.0087	41.61	14.48
Conveying	0.003	0.0011	4.99	1.83
Unlimited Potential to Emit (tons/yr) =			**55.59**	**20.31**

Methodology
Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Unlimited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]
Raw materials may include stone/gravel, slag, 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 weigh (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

ATSD Appendix A.1: Unlimited Emissions Calculations
Unpaved Roads

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,328,800	tons/yr
Maximum Asphalt Cement/Binder Throughput =	175,200	tons/yr
Maximum No. 2 Fuel Oil Usage =	8,447,143	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	1.5E+05	5.9E+06	845	0.160	23,777.14
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	845	0.160	23,777.14
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	4.9E+03	2.3E+05	0	0	0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	4.9E+03	5.8E+04	0	0	0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	8.9E+02	3.9E+04	0	0	0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	8.9E+02	1.1E+04	0	0	0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	7.9E+05	1.5E+07	211	0.040	31,702.86
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	7.9E+05	1.2E+07	211	0.040	31,702.86
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.5E+05	6.0E+06	845	0.160	23,360.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	845	0.160	23,360.00
	Total				**2.2E+06**	**4.4E+07**			**1.6E+05**

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.072	miles/trip

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

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

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	72.46	18.47	1.85	47.65	12.14	1.21	23.82	6.07	0.61
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	72.46	18.47	1.85	47.65	12.14	1.21	23.82	6.07	0.61
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	96.61	24.62	2.46	63.53	16.19	1.62	31.76	8.10	0.81
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	96.61	24.62	2.46	63.53	16.19	1.62	31.76	8.10	0.81
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	71.19	18.14	1.81	46.81	11.93	1.19	23.40	5.97	0.60
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	71.19	18.14	1.81	46.81	11.93	1.19	23.40	5.97	0.60
	Totals	**480.53**	**122.47**	**12.25**	**315.96**	**80.53**	**8.05**	**157.98**	**40.26**	**4.03**

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

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

ATSD Appendix A: Unlimited Emissions Calculations
Paved Roads

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,328,800	tons/yr
Maximum Asphalt Cement/Binder Throughput =	175,200	tons/yr
Maximum No. 2 Fuel Oil Usage =	8,447,143	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	1.5E+05	5.9E+06	845	0.160	23,777.14
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	845	0.160	23,777.14
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	4.9E+03	2.3E+05	1,373	0.260	1,265.33
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	4.9E+03	5.8E+04	1,373	0.260	1,265.33
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	8.9E+02	3.9E+04	1,373	0.260	231.98
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	8.9E+02	1.1E+04	1,373	0.260	231.98
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	7.9E+05	1.5E+07	0	0	0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	7.9E+05	1.2E+07	0	0	0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	1.5E+05	6.0E+06	845	0.160	23,360.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	845	0.160	23,360.00
	Total				**2.2E+06**	**4.4E+07**			**9.7E+04**

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.044	miles/trip

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

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

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

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	1.77	0.35	0.09	1.62	0.32	0.08	0.81	0.16	0.04
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	1.77	0.35	0.09	1.62	0.32	0.08	0.81	0.16	0.04
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.094	0.019	4.6E-03	0.086	0.017	4.2E-03	0.043	8.6E-03	2.1E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.094	0.019	4.6E-03	0.086	0.017	4.2E-03	0.043	8.6E-03	2.1E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.7E-02	3.5E-03	8.5E-04	1.6E-02	3.2E-03	7.7E-04	7.9E-03	1.6E-03	3.9E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.7E-02	3.5E-03	8.5E-04	1.6E-02	3.2E-03	7.7E-04	7.9E-03	1.6E-03	3.9E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	1.74	0.35	0.09	1.59	0.32	0.08	0.79	0.16	0.04
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	1.74	0.35	0.09	1.59	0.32	0.08	0.79	0.16	0.04
	Totals	**7.23**	**1.45**	**0.36**	**6.61**	**1.32**	**0.32**	**3.31**	**0.66**	**0.16**

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

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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Asphalt Cement/Binder Throughput =	175,200	tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Usage (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	44,325.60	42,109.32
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	50,107.20	35,075.04
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	35,040.00	8,760.00
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	26,280.00	12,193.92
Other asphalt with solvent binder	25.9%	2.5%	45,376.80	1,134.42
			Worst Case PTE of VOC =	**42,109.32**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
PTE of Total HAPs (tons/yr) =	**10,983.67**	
PTE of Single HAP (tons/yr) =	**3,789.84**	**Xylenes**

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

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

Methodology
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] * [Maximum Weight % of VOC Solvent in Binder]
PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [Maximum VOC Solvent Usage (tons/yr)]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Gasoline Throughput =	0	gallons/day
=	0	kgal/yr

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0
Tank breathing and emptying	1.0	0
Vehicle refueling (displaced losses - controlled)	1.1	0
Spillage	0.7	0
Total		**0**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	**0**	
Limited PTE of Single HAP (tons/yr) =	**0**	**Xylenes**

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

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Asphalt Plant Limitations - Drum Mix

Maximum Hourly Asphalt Production =	400	ton/hr								
Annual Asphalt Production Limitation =	1,306,817	ton/yr								
Blast Furnace Slag Usage Limitation =	50,000	ton/yr	1.50	% sulfur						
Steel Slag Usage Limitation =	1,306,817		0.66	% sulfur						
Natural Gas Limitation =	785	MMCF/yr								
No. 2 Fuel Oil Limitation =	2,117,904	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 =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	1,363,911	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead
Diesel Fuel Oil Limitation =	77,433		0.50	% sulfur						

PM Dryer/Mixer Limitation =	0.247	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.109	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.133	lb/ton of asphalt production
SO2 Dryer/Mixer Limitation =	0.058	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
Blast Furnace Slag SO2 Dryer/Mixer Limitation =	0.740	lb/ton of slag processed
Steel Slag SO2 Dryer/Mixer Limitation =	0.0014	lb/ton of slag processed
Cold Mix Asphalt VOC Usage Limitation =	53.44	tons/yr
HCl Limitation =	13.2	lb/kgal

Limited/Controlled Emissions

	Limited/Controlled Potential Emissions (tons/year)										
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants		
Process Description	**PM**	**PM10**	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**	**CO_2e**	**Total HAPs**	**Worst Case HAP**	
Ducted Emissions											
Dryer Fuel Combustion (worst case)	44.52	35.48	35.48	75.19	74.55	2.16	32.96	47,434.22	10.34	9.00	(hydrogen chloride)
Dryer/Mixer (Process)	161.64	71.51	86.72	37.90	35.94	20.91	84.94	21,727.14	6.96	2.03	(formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	18.50	0	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.11	0.18	0.18	3.78	1.06	0.04	0.63	1,202.06	0.017	0.013	(hexane)
Astec Crusher Fuel Combustion *	N/A	N/A	N/A	N/A	N/A	N/A	N/A	872.98	0.021	0.006	(formaldehyde)
Worst Case Emissions **	**161.74**	**71.69**	**86.90**	**97.46**	**75.61**	**20.95**	**85.57**	**49,509.25**	**10.37**	**9.00**	**(hydrogen chloride)**
Fugitive Emissions											
Asphalt Load-Out, Silo Filling, On-Site Yard	0.72	0.72	0.72	0	0	11.19	1.88	0	0.19	0.06	(formaldehyde)
Material Storage Piles	1.02	0.36	0.36	0	0	0	0	0	0	0	
Material Processing and Handling	4.22	2.00	0.30	0	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	20.73	7.57	7.57	0	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	58.92	15.02	1.50	0	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	53.44	0	0	13.94	4.81	(xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	0	
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	negl	
Total Fugitive Emissions	**85.61**	**25.67**	**10.46**	**0**	**0**	**64.63**	**1.88**	**0**	**14.13**	**4.81**	(xylenes)
Totals Limited/Controlled Emissions	**247.36**	**97.36**	**97.36**	**97.46**	**75.61**	**85.58**	**87.45**	**49,509.25**	**24.50**	**9.00**	**(hydrogen chloride)**

negl = negligible
Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.
* The crusher has been determined a nonroad vehicle under 40 CFR 60, and 40 CFR 63, therefore, the criteria pollutant emissions are not counted toward PSD and TV applicablilty.
** Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion
Fuel component percentages provided by the source.

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Production and Fuel Limitations

Maximum Hourly Asphalt Production =	400	ton/hr								
Annual Asphalt Production Limitation =	1,306,817	ton/yr								
Natural Gas Limitation =	785	MMCF/yr								
No. 2 Fuel Oil Limitation =	2,117,904	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 =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	1,363,911	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead

Limited Emissions

	Emission Factor (units)							Limited Potential to Emit (tons/yr)							
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2	7	3.22	0.5	0.6	65.28	0.75	2.12	0	0	0	0	44.52	**44.52**
PM10	7.6	3.3	8.3	4.72	0.5	0.6	52.02	2.98	3.49	0	0	0	0	35.48	**35.48**
SO2	0.6	71.0	0	0	0	0	110.3	0.24	75.19	0	0	0	0	75.19	**75.19**
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	74.55	25.41	0	0	0	0	12.96	**74.55**
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.16	0.21	0	0	0	0	0.68	**2.16**
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	32.96	5.29	0	0	0	0	3.41	**32.96**
Hazardous Air Pollutant															
HCl							13.2							9.00	**9.00**
Antimony			5.25E-03	5.25E-03			negl			0	0			negl	**0**
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	7.8E-05	5.93E-04	0	0			7.50E-02	**0.08**
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	4.7E-06	4.45E-04	0	0			negl	**4.4E-04**
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	4.3E-04	4.45E-04	0	0			6.34E-03	**6.3E-03**
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	5.5E-04	4.45E-04	0	0			1.36E-02	**0.01**
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	3.3E-05		0	0			1.43E-04	**1.4E-04**
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.0E-04	1.33E-03	0	0			3.8E-01	**0.38**
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.5E-04	8.90E-04	0	0			4.64E-02	**0.05**
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.0E-04	4.45E-04	0	0				**4.4E-04**
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	8.2E-04	4.45E-04	0	0			7.50E-03	**0.01**
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	9.4E-06	2.22E-03	0	0			negl	**2.2E-03**
1.1.1-Trichloroethane			2.36E-04	2.36E-04						0	0				**0**
1,3-Butadiene															**0**
Acetaldehyde															**0**
Acrolein															**0**
Benzene	2.1E-03		2.14E-04	2.14E-04				8.2E-04		0	0				**8.2E-04**
Bis(2-ethylhexyl)phthalate							2.2E-03							1.50E-03	**1.5E-03**
Dichlorobenzene	1.2E-03						8.0E-07	4.7E-04						5.46E-07	**4.7E-04**
Ethylbenzene			6.36E-05	6.36E-05						0	0				**0**
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				2.9E-02	6.46E-02	0	0				**0.06**
Hexane	1.8E+00							0.71							**0.71**
Phenol							2.4E-03							1.64E-03	**1.6E-03**
Toluene	3.4E-03		6.20E-03	6.20E-03				1.3E-03		0	0				**1.3E-03**
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0	0			2.67E-02	**0.03**
Polycyclic Organic Matter		3.30E-03							3.49E-03						**3.5E-03**
Xylene			1.09E-04	1.09E-04						0	0				**0**
							Total HAPs	**0.74**	**0.08**	**0**	**0**	**0**	**0**	**9.56**	**10.34**

Methodology
Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
Sources of AP-42 Emission Factors for fuel combustion:
Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
No. 2, No.4, and No.6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

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

*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Production and Fuel Limitations

Maximum Hourly Asphalt Production =	400	ton/hr										
Annual Asphalt Production Limitation =	1,306,817	ton/yr										
Natural Gas Limitation =	785	MMCF/yr										
No. 2 Fuel Oil Limitation =	2,117,904	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 =	0	gal/yr, and	0	gr/100 ft3 sulfur								
Used/Waste Oil Limitation =	1,363,911	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead		

Limited Emissions

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

	Limited Potential to Emit (tons/yr)						
CO2e Fraction	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO2	47,146.08	23,827.92	0	0	0	0	15,019.49
CH4	0.98	0.97	0	0	0	0	0.61
N2O	0.86	0.28	0	0	0	0	0.12
Total	47,147.93	23,829.16	0	0	0	0	15,020.23
CO2e Equivalent Emissions (tons/yr)	47,434.22	23,933.57	0	0	0	0	15,070.33

CO2e for Worst Case Fuel* (tons/yr)
47,434.22

Methodology
Fuel Limitations from TSD Appendix A.2, page 1 of 15.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter
No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3
No.4 Fuel Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.
Residual (No. 5 or No. 6) Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
Propane and Butane: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
Waste Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.
Emission Factor (EF) Conversions
Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]
Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]
Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
Limited CO2e Emissions (tons/yr) = CO2 Potential Emission of "worst case" fuel (ton/yr) x CO2 GWP (1) + CH4 Potential Emission of "worst case" fuel (ton/yr) x CH4 GWP (21) + N2O Potential Emission of "worst case" fuel (ton/yr) x N2O GWP (310).

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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	1,306,817	ton/yr
PM Dryer/Mixer Limitation =	0.247	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.109	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.133	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

	Emission Factor or Limitation (lb/ton) Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Limited/Controlled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	**Worse Case PTE**
PM*	0.247	0.247	0.247	161.64	161.64	161.64	**161.64**
PM10*	0.109	0.109	0.109	71.51	71.51	71.51	**71.51**
PM2.5*	0.133	0.133	0.133	86.72	86.72	86.72	**86.72**
SO2**	0.003	0.011	0.058	2.22	7.19	37.90	**37.90**
NOx**	0.026	0.055	0.055	16.99	35.94	35.94	**35.94**
VOC**	0.032	0.032	0.032	20.91	20.91	20.91	**20.91**
CO***	0.130	0.130	0.130	84.94	84.94	84.94	**84.94**
Hazardous Air Pollutant							
HCl			2.10E-04			0.14	**0.14**
Antimony	1.80E-07	1.80E-07	1.80E-07	1.18E-04	1.18E-04	1.18E-04	**1.18E-04**
Arsenic	5.60E-07	5.60E-07	5.60E-07	3.66E-04	3.66E-04	3.66E-04	**3.66E-04**
Beryllium	negl	negl	negl	negl	negl	negl	**0**
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.68E-04	2.68E-04	2.68E-04	**2.68E-04**
Chromium	5.50E-06	5.50E-06	5.50E-06	3.59E-03	3.59E-03	3.59E-03	**3.59E-03**
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.70E-05	1.70E-05	1.70E-05	**1.70E-05**
Lead	6.20E-07	1.50E-05	1.50E-05	4.05E-04	9.80E-03	9.80E-03	**9.80E-03**
Manganese	7.70E-06	7.70E-06	7.70E-06	5.03E-03	5.03E-03	5.03E-03	**5.03E-03**
Mercury	2.40E-07	2.60E-06	2.60E-06	1.57E-04	1.70E-03	1.70E-03	**1.70E-03**
Nickel	6.30E-05	6.30E-05	6.30E-05	4.12E-02	4.12E-02	4.12E-02	**0.04**
Selenium	3.50E-07	3.50E-07	3.50E-07	2.29E-04	2.29E-04	2.29E-04	**2.29E-04**
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	2.61E-02	2.61E-02	2.61E-02	**0.03**
Acetaldehyde			1.30E-03			0.85	**0.85**
Acrolein			2.60E-05			1.70E-02	**0.02**
Benzene	3.90E-04	3.90E-04	3.90E-04	0.25	0.25	0.25	**0.25**
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.16	0.16	0.16	**0.16**
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	2.03	2.03	2.03	**2.03**
Hexane	9.20E-04	9.20E-04	9.20E-04	0.60	0.60	0.60	**0.60**
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			0.08	**0.08**
Quinone			1.60E-04			0.10	**0.10**
Toluene	1.50E-04	2.90E-03	2.90E-03	0.10	1.89	1.89	**1.89**
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.12	0.57	0.57	**0.57**
Xylene	2.00E-04	2.00E-04	2.00E-04	0.13	0.13	0.13	**0.13**
						Total HAPs	**6.96**
						Worst Single HAP	**2.03** **(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

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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	1,306,817	ton/yr

	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)				Limited Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil	Global Warming Potentials (GWP)	Natural Gas	No. 2 Fuel Oil	Waste Oil	**CO2e for Worst Case Fuel (tons/yr)**
CO2	33	33	33	1	21,562.48	21,562.48	21,562.48	
CH4	0.0120	0.0120	0.0120	21	7.84	7.84	7.84	
N2O				310	0	0	0	
				Total	21,570.32	21,570.32	21,570.32	**21,727.14**
				CO2e Equivalent Emissions (tons/yr)	21,727.14	21,727.14	21,727.14	

Methodology

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

There are no emission factors for N20 available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N2O emissions anticipated from this process.

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

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

Limited CO2e Emissions (tons/yr) = CO2 Potential Emission of "worst case" fuel (ton/yr) x CO2 GWP (1) + CH4 Potential Emission of "worst case" fuel (ton/yr) x CH4 GWP (21) + N2O Potential Emission of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

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

ATSD Appendix A.2: Limited Emissions Calculations
Dryer/Mixer Slag Processing

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Limited Blast Furnace Slag Usage =	50,000	ton/yr	1.50	% sulfur
Limited Annual Steel Slag Usage =	1,306,817	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	18.5
Steel Slag	0.0014	0.91

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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate =	1.70	MMBtu/hr		
Natural Gas Usage =	15	MMCF/yr		
No. 2 Fuel Oil Usage =	106,371	gal/yr, and	0.50	% sulfur

Unlimited/Uncontrolled Emissions

	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	0.014	0.106	**0.11**
PM10/PM2.5	7.6	3.3	0.057	0.176	**0.18**
SO2	0.6	71.0	0.004	3.776	**3.78**
NOx	100	20.0	0.745	1.064	**1.06**
VOC	5.5	0.20	0.041	0.011	**0.04**
CO	84	5.0	0.625	0.266	**0.63**
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.5E-06	2.98E-05	**3.0E-05**
Beryllium	1.2E-05	4.2E-04	8.9E-08	2.23E-05	**2.2E-05**
Cadmium	1.1E-03	4.2E-04	8.2E-06	2.23E-05	**2.2E-05**
Chromium	1.4E-03	4.2E-04	1.0E-05	2.23E-05	**2.2E-05**
Cobalt	8.4E-05		6.3E-07		**6.3E-07**
Lead	5.0E-04	1.3E-03	3.7E-06	6.70E-05	**6.7E-05**
Manganese	3.8E-04	8.4E-04	2.8E-06	4.47E-05	**4.5E-05**
Mercury	2.6E-04	4.2E-04	1.9E-06	2.23E-05	**2.2E-05**
Nickel	2.1E-03	4.2E-04	1.6E-05	2.23E-05	**2.2E-05**
Selenium	2.4E-05	2.1E-03	1.8E-07	1.12E-04	**1.1E-04**
Benzene	2.1E-03		1.6E-05		**1.6E-05**
Dichlorobenzene	1.2E-03		8.9E-06		**8.9E-06**
Ethylbenzene					**0**
Formaldehyde	7.5E-02	6.10E-02	5.6E-04	3.24E-03	**0.003**
Hexane	1.8E+00		0.01		**0.013**
Phenol					**0**
Toluene	3.4E-03		2.5E-05		**2.5E-05**
Total PAH Haps	negl		negl		**0**
Polycyclic Organic Matter		3.30E-03		1.76E-04	**1.8E-04**
		Total HAPs =	**1.4E-02**	**3.8E-03**	**0.017**

Methodology

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

Abbreviations

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

ATSD Appendix A.2: Limited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate =	1.70	MMBtu/hr		
Natural Gas Usage =	14.89	MMCF/yr		
No. 2 Fuel Oil Usage =	106,371.43	gal/yr,	0.50	% sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units) Natural Gas (lb/MMCF)	Emission Factor (units) No. 2 Fuel Oil (lb/kgal)	Global Warming Potentials (GWP)	to Emit (tons/yr) Natural Gas (tons/yr)	to Emit (tons/yr) No. 2 Fuel Oil (tons/yr)	**Worse Case CO2e Emissions (tons/yr)**
CO2	120,161.84	22,501.41	1	894.73	1,196.75	**1,202.06**
CH4	2.49	0.91	21	0.019	4.86E-02	
N2O	2.20	0.26	310	0.016	1.38E-02	
			Total	894.76	1,196.82	

CO2e Equivalent Emissions (tons/yr)	900.19	1,202.06

Methodology

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

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

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

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

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

Emission Factor (EF) Conversions

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

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

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

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

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

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

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

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

ATSD Appendix A.2: Limited Emissions Calculations
Reciprocating Internal Combustion Engines
Diesel Fuel-fired Portable Crusher
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Emissions calculated based on fuel usage limit (gal/yr):

Diesel Engine Oil Usage[1] = 77,433 gal/yr
Sulfur Content = 0.50 % sulfur

	Criteria Pollutants						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	42.47	42.47	42.47	39.73	604.17	49.32	130.15
Potential Emission in tons/yr	1.64	1.64	1.64	1.54	23.39	1.91	5.04

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

	Hazardous Air Pollutants (HAPs)							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/kgal****	1.28E-01	5.60E-02	3.90E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Potential Emission in tons/yr	4.95E-03	2.17E-03	1.51E-03	2.07E-04	**0.006**	4.07E-03	4.91E-04	8.91E-04

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/MMBtu were converted to lb/kgal using the heating value of diesel fuel oil (137,000 Btu/gal) as taken from AP 42 Appendix A (09/85), page A-5.

Potential Emission of Total Combined HAPs (tons/yr)	**0.021**

Notes
Constant: 1 kilogallon (kgal) = 1000 gallons (gal)
The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.
Emission Factors for Diesel Fuel Oil combustion are from AP 42 - 3.3 Gasoline and Diesel Industrial Engines (Supplement B 10/96), Tables 3.3-1 and 3.3-2
[1]The diesel fuel usage rate was determined using the maximum fuel input rate for the crusher (see Appendix A.1 for more details).

Methodology
Potential Throughput (hp-hr/yr) = Output Horsepower Rating (hp) * Maximum Operating Hours per Year
Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]
Limited Potential to Emit (tons/yr) = Diesel Engine Oil Usage (gal/yr)) * Emission Factor (lb/kgal)) / (1000 gal/kgal * 2,000 lb/ton)]

ATSD Appendix A.2: Limited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from the
Diesel Fuel-fired Portable Crusher
Reciprocating Internal Combustion Engines
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Emissions calculated based on fuel usage limit (gal/yr):

Diesel Engine Oil Usage[1] =	77,433	gal/yr
Sulfur Content =	0.50	% sulfur

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

	Limited Potential to Emit (tons/yr)		
	CO2	CH4	N2O
Emission Factor in lb/kgal	22,472.92	0.91	0.18
Potential Emission in tons/yr	870.08	0.04	0.01
Summed Potential Emissions in tons/yr	870.12		
CO2e Equivalent Emissions (tons/yr) *	872.98		

Notes
Constant: 1 kilogallon (kgal) = 1000 gallons (gal)
The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
Diesel Engine Oil: Emission Factor for CO2 from AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1, has been converted from lb/MMBtu to lb/kgal. Emission Factors for CH4 and N2O from 40 CFR Part 98 Subpart C, Table C-2, have been converted from kg/mmBtu to lb/kgal.
Emission Factor (EF) Conversion
for CO2: EF (lb/kgal) = [EF (lb/MMbtu) x average heating value of diesel (19,300 Btu/lb) x Conversion Factor (1/1,000,000 MMBtu/Btu) x density of diesel (7.1 lb/gal) x Conversion Factor (1,000 gal/kgal)
for CH4 & N2O: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

[1]The diesel fuel usage rate was determined using the maximum fuel input rate for the crusher (see TSD Appendix A.1 for more details).

Methodology
Potential Throughput (hp-hr/yr) = Output Horsepower Rating (hp) * Maximum Operating Hours per Year
Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]
Limited Potential to Emit (tons/yr) = [Diesel Engine Oil Usage (gal/yr)) * Emission Factor (lb/kgal)) / (1000 gal/kgal * 2,000 lb/ton)] * Global Warming Potential
Limited CO2e Emissions (tons/yr) = CO2 Potential Emission (ton/yr) x CO2 GWP (1) + CH4 Potential Emission (ton/yr) x CH4 GWP (21) + N2O Potential Emission (ton/yr) x N2O GWP (310).

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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 =	1,306,817	tons/yr

	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
Pollutant	**Load-Out**	**Silo Filling**	**On-Site Yard**	**Load-Out**	**Silo Filling**	**On-Site Yard**	**Total**
Total PM*	5.2E-04	5.9E-04	NA	0.34	0.38	NA	**0.72**
Organic PM	3.4E-04	2.5E-04	NA	0.22	0.166	NA	**0.39**
TOC	0.004	0.012	0.001	2.72	7.96	0.719	**11.4**
CO	0.001	0.001	3.5E-04	0.88	0.771	0.230	**1.88**

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

PM/HAPs	**0.016**	**0.019**	**0**	**0.035**
VOC/HAPs	**0.040**	**0.101**	**0.011**	**0.152**
non-VOC/HAPs	**2.1E-04**	**2.1E-05**	**5.5E-05**	**2.9E-04**
non-VOC/non-HAPs	**0.20**	**0.11**	**0.05**	**0.36**

Total VOCs	**2.55**	**7.96**	**0.7**	**11.2**
Total HAPs	**0.06**	**0.12**	**0.011**	**0.19**
			Worst Single HAP	**0.058 (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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Organic Particulate-Based Compounds (Table 11.1-15)

					Speciation Profile		Limited Potential to Emit (tons/yr)			
Pollutant	**CASRN**	**Category**	**HAP Type**	**Source**	**Load-out and Onsite Yard (% by weight of Total Organic PM)**	**Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)**	**Load-out**	**Silo Filling**	**Onsite Yard**	**Total**
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	5.8E-04	7.8E-04	NA	1.4E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	6.2E-05	2.3E-05	NA	8.6E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.6E-04	2.2E-04	NA	3.7E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	4.2E-05	9.3E-05	NA	1.4E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.7E-05	0	NA	1.7E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	4.9E-06	0	NA	4.9E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	4.2E-06	0	NA	4.2E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	5.1E-06	0	NA	5.1E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.7E-05	1.6E-05	NA	3.3E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	2.3E-04	3.5E-04	NA	5.8E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	8.2E-07	0	NA	8.2E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.1E-04	2.5E-04	NA	3.6E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.7E-03	1.7E-03	NA	3.4E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.0E-06	0	NA	1.0E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	5.3E-03	8.7E-03	NA	0.014
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	2.8E-03	3.0E-03	NA	5.8E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	4.9E-05	5.0E-05	NA	9.9E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.8E-03	3.0E-03	NA	4.8E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	3.3E-04	7.3E-04	NA	1.1E-03
Total PAH HAPs							**0.013**	**0.019**	**NA**	**0.032**
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.6E-03	0	0	2.6E-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

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

Organic Volatile-Based Compounds (Table 11.1-16)

					Speciation Profile		Limited Potential to Emit (tons/yr)			
Pollutant	**CASRN**	**Category**	**HAP Type**	**Source**	**Load-out and Onsite Yard (% by weight of TOC)**	**Silo Filling and Asphalt Storage Tank (% by weight of TOC)**	**Load-out**	**Silo Filling**	**Onsite Yard**	**Total**
VOC		VOC	---	TOC	94%	100%	**2.55**	**7.96**	**0.68**	**11.19**
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.8E-01	2.1E-02	4.7E-02	0.244
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.3E-03	4.4E-03	3.3E-04	0.006
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.9E-02	8.8E-02	5.1E-03	0.112
Total non-VOC/non-HAPS					7.30%	1.40%	**0.198**	**0.111**	**0.052**	**0.36**
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.4E-03	2.5E-03	3.7E-04	4.3E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.6E-04	3.9E-04	6.9E-05	7.2E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.3E-03	3.1E-03	3.5E-04	4.8E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	3.5E-04	1.3E-03	9.3E-05	1.7E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	5.7E-06	3.2E-04	1.5E-06	3.3E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	4.1E-04	1.8E-03	1.1E-04	2.3E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	3.0E-03	0	7.9E-04	3.8E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	7.6E-03	3.0E-03	2.0E-03	0.013
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	2.4E-03	5.5E-02	6.3E-04	0.058
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	4.1E-03	8.0E-03	1.1E-03	0.013
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	4.9E-05	2.5E-05	1.3E-05	8.7E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.1E-05	0	2.1E-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%	2.0E-04	4.3E-04	5.2E-05	6.8E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.1E-04	0	5.5E-05	2.6E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	5.7E-03	4.9E-03	1.5E-03	0.012
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	3.5E-05	0	9.3E-06	4.5E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.1E-02	1.6E-02	2.9E-03	0.030
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.2E-03	4.5E-03	5.7E-04	7.3E-03
Total volatile organic HAPs					1.50%	1.30%	**0.041**	**0.104**	**0.011**	**0.155**

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

ATSD Appendix A.2: Limited Emissions Calculations
Material Storage Piles

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.24	0.132	0.046
Limestone	1.6	1.85	0.92	0.311	0.109
RAP	0.5	0.58	1.38	0.146	0.051
Gravel	1.6	1.85	0.11	0.037	0.013
Slag	3.8	4.40	0.09	0.072	0.025
Shingles	3.8	4.40	0.40	0.321	0.112
			Totals	**1.02**	**0.36**

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

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

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

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

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

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

Annual Asphalt Production Limitation =	1,306,817	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,241,476	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	1.41	0.67	0.10
Front-end loader dumping of materials into feeder bins	1.41	0.67	0.10
Conveyor dropping material into dryer/mixer or batch tower	1.41	0.67	0.10
Total (tons/yr)	**4.22**	**2.00**	**0.30**

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

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	3.35	1.49
Screening	0.025	0.0087	15.52	5.40
Conveying	0.003	0.0011	1.86	0.68
Limited Potential to Emit (tons/yr) =			**20.73**	**7.57**

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

ATSD Appendix A.2: Limited Emissions Calculation
Unpaved Roads

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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 =	1,306,817	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,241,476	tons/yr
Maximum Asphalt Cement/Binder Throughput =	65,341	tons/yr
No. 2 Fuel Oil Limitation =	2,117,904	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	5.5E+04	2.2E+06	845	0.160	8,867.7
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	5.5E+04	9.4E+05	845	0.160	8,867.7
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.8E+03	8.7E+04	0	0	0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.8E+03	2.2E+04	0	0	0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.2E+02	9.8E+03	0	0	0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.2E+02	2.7E+03	0	0	0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	3.0E+05	5.7E+06	211	0.040	11,823.6
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	3.0E+05	4.4E+06	211	0.040	11,823.6
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	5.4E+04	2.2E+06	845	0.160	8,712.1
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	5.4E+04	9.3E+05	845	0.160	8,712.1
	Total				**8.2E+05**	**1.7E+07**			**5.9E+04**

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.072	miles/trip

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

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

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	27.02	6.89	0.69	17.77	4.53	0.45	8.88	2.26	0.23
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	27.02	6.89	0.69	17.77	4.53	0.45	8.88	2.26	0.23
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	36.03	9.18	0.92	23.69	6.04	0.60	11.85	3.02	0.30
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	36.03	9.18	0.92	23.69	6.04	0.60	11.85	3.02	0.30
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	26.55	6.77	0.68	17.46	4.45	0.44	8.73	2.22	0.22
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	26.55	6.77	0.68	17.46	4.45	0.44	8.73	2.22	0.22
	Totals	**179.20**	**45.67**	**4.57**	**117.83**	**30.03**	**3.00**	**58.92**	**15.02**	**1.50**

Methodology
Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)
PM2.5 = PM10

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

ATSD Appendix A.2: Limited Emissions Calculations
Paved Roads
Limited Emissions

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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 =	1,306,817	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,241,476	tons/yr
Maximum Asphalt Cement/Binder Throughput =	65,341	tons/yr
No. 2 Fuel Oil Limitation =	2,117,904	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	5.5E+04	2.2E+06	845	0.160	8,867.7
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	5.5E+04	9.4E+05	845	0.160	8,867.7
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.8E+03	8.7E+04	1,373	0.260	471.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.8E+03	2.2E+04	1,373	0.260	471.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.2E+02	9.8E+03	1,373	0.260	58.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.2E+02	2.7E+03	1,373	0.260	58.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	3.0E+05	5.7E+06	0	0	0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	3.0E+05	4.4E+06	0	0	0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	5.4E+04	2.2E+06	845	0.160	8,712.1
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	5.4E+04	9.3E+05	845	0.160	8,712.1
	Total				**8.2E+05**	**1.7E+07**			**3.6E+04**

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.044	miles/trip

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

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

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

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.66	0.13	0.03	0.60	0.12	0.03	0.30	0.06	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.66	0.13	0.03	0.60	0.12	0.03	0.30	0.06	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.035	0.007	1.7E-03	0.032	0.006	1.6E-03	0.016	3.2E-03	7.9E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.035	0.007	1.7E-03	0.032	0.006	1.6E-03	0.016	3.2E-03	7.9E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	4.3E-03	8.6E-04	2.1E-04	4.0E-03	7.9E-04	1.9E-04	2.0E-03	4.0E-04	9.7E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	4.3E-03	8.6E-04	2.1E-04	4.0E-03	7.9E-04	1.9E-04	2.0E-03	4.0E-04	9.7E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.65	0.13	0.03	0.59	0.12	0.03	0.30	0.06	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.65	0.13	0.03	0.59	0.12	0.03	0.30	0.06	0.01
	Totals	**2.69**	**0.54**	**0.13**	**2.46**	**0.49**	**0.12**	**1.23**	**0.25**	**0.06**

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

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

ATSD Appendix A.2: Limited Emissions Calculations
Cold Mix Asphalt Production and Stockpiles

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

Cold Mix Asphalt VOC Usage Limitation = 53.44 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%	56.25	53.44	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	76.34	53.44	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	213.76	53.44	4.000
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	115.17	53.44	2.155
Other asphalt with solvent binder	25.9%	2.5%	2,137.64	53.44	40.0
Worst Case Limited PTE of VOC =				**53.44**	

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	**13.94**	
Limited PTE of Single HAP (tons/yr) =	**4.81**	**Xylenes**

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

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

Methodology
Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [VOC Solvent Usage Limitation (tons/yr)]
Limited PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
Limited PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds PTE = Potential to Emit

ATSD Appendix A.2: Limited Emissions Calculations
Gasoline Fuel Transfer and Dispensing Operation

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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

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

Gasoline Throughput =	0	gallons/day
=	0	kgal/yr

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0
Tank breathing and emptying	1.0	0
Vehicle refueling (displaced losses - controlled)	1.1	0
Spillage	0.7	0
Total		**0**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	**0**	
Limited PTE of Single HAP (tons/yr) =	**0**	**Xylenes**

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

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

Indiana Department of Environmental Management
Office of Air Quality

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

Source Description and Location

Source Name:	Milestone Contractors, L.P.
Source Location:	201 East Rampart Street, Shelbyville, Indiana 46176
County:	Shelby
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
Operation Permit No.:	F145-23091-03230
Operation Permit Issuance Date:	February 1, 2007
Significant Permit Revision No.:	F145-31102-03230
Permit Reviewer:	Hannah L. Desrosiers

On November 4, 2011, the Office of Air Quality (OAQ) received an application from Milestone Contractors, L.P. related to a modification to an existing stationary drum mix asphalt pavement production plant.

Existing Approvals

The source was issued FESOP Renewal No.: F145-23091-03230 on February 1, 2007. The source has since received Administrative Amendment No.: F145-25978-03230, issued on February 21, 2008.

County Attainment Status

The source is located in Shelby County. The following attainment status designations are applicable to Shelby County:

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Attainment effective October 19, 2007, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
$PM_{2.5}$	Unclassifiable or attainment effective April 5, 2005.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.
[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.	

(Air Pollution Control Board; 326 IAC 1-4-73; filed Dec 26, 2007, 1:43 p.m.: 20080123-IR-326070308FRA)

(a) Ozone Standards

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

(b) PM2.5

Shelby County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM2.5 significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct PM2.5 and SO2 emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants

Shelby County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

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

Status of the Existing Source

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

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Potential To Emit of the Entire Source Prior to Revision (tons/year)								
Process/emission unit	**PM**	**PM-10**	**SO_2**	**VOC**	**CO**	**NO_X**	**Single HAP**	**Total HAPs**
Aggregate Dryer and Burner (1)	50.83(2)	62.48(3)	70.00	58.63	84.94 (6)	88.94	8.75	24.41
Hot Oil Heater & Tank Heater	0.11	0.18	3.67	0.04	0.63	1.06	negl.	negl.
Conveying/Handling	3.59	1.70	-	-	-	-	-	
Unpaved Roads(4)	153.49	32.59	-	-	-	-	-	
Aggregate Storage	0.31	0.11	-	-	-	-	-	
Cold-mix VOC storage(5)	-	-	-	12.0	-	-	-	
Load Out and Silo Filling	1.94	1.94	-	28.2	4.43	-		
Total PTE After Issuance	**210.27**	**99.0**	**73.78**	**98.87**	**90.0**	**90.0**	**8.75**	**24.41**
Title V Major Source Thresholds**	NA	100	100	100	100	100	10	25
PSD Major Source Thresholds**	250	250	250	250	250	250	NA	NA

negl. = negligible NA = not applicable

Note: This table was taken directly from the TSD for FESOP Renewal No. F145-23091-03230 *(Potential to Emit After Issuance Section, page 4 of 12)*. The TV and PSD Major Source thresholds were added, and the formatting has been modified slightly for clarity. IDEM was not required to quantify PM2.5 or Greenhouse Gas emissions at the time of issuance.

(1) Limited PTE reflects fuel oil usage limitations in order to comply with 326 IAC 2-8 (FESOP).

(2) Maximum allowable PM emissions limited to 0.029 lb of PM/ ton of asphalt mix in order to render 326 IAC 2-2 (PSD) not applicable.

(3) Maximum allowable PM10 emissions in order to comply with 326 IAC 2-8 (FESOP).

(4) Potential to emit after fugitive dust controls to comply with 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations).

(5) Maximum allowable VOC emissions in order to comply with 326 IAC 2-8 (FESOP).

(6) Emissions represent emissions after a limit on hot mix asphalt produced to limit source-wide CO emissions to 90 tons per year 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 attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(b) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the Permittee has accepted limits on HAPs emissions to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Milestone Contractors, L.P. (Milestone) on November 4, 2011, relating to the addition of blast furnace and electric arc furnace steel mill slag, and recycled shingles to their aggregate mix. Milestone has also requested approval to use additional cold-mix emulsions in its cold-mix asphalt production operation, and approval to perform onsite RAP crushing. The RAP crushing will be performed by a portable unit that will be moved from site to site on an as-needed

basis. Finally, Milestone has requested that the baghouse instrument calibration requirement be revised to account for the seasonality of hot-mix asphalt production. Each of these changes is intended to increase the operational flexibility of this stationary source.

(a) The following is a list of the existing affected emission unit(s) and pollution control device(s), as described in FESOP Renewal No.: F145-23091-03230:

(a) one (1) aggregate counter flow drum mix dryer, identified as emission unit No. 2, installed in 2004, with a maximum capacity of 400 tons per hour, equipped with one (1) natural gas fired aggregate dryer burner with a maximum rated capacity of 135.0 million (MM) British thermal units (Btu) per hour, using No. 2 distillate fuel oil and re-refined waste oil as back-up fuels and one (1) baghouse system for air pollution control, exhausting at one (1) stack, identified as S-1;

(b) one (1) drag slat conveyor, three (3) feed conveyors, and one (1) screen, each installed in 1976;

(c) cold-mix (stockpile mix) asphalt storage piles, installed in 1976.

Under New Source Performance Standards (NSPS) Subpart I, the hot mix asphalt plant is considered an affected facility because the construction of the plant commenced after June 11, 1973.

(d) one (1) cold feed system consisting of six (6) compartments with a total aggregate holding capacity of 150 tons;

(e) two (2) hot mix asphalt cement storage silos, each with a maximum storage capacity of 100 tons;

(f) one (1) Recycled Asphalt Pavement (RAP) feed bin with a holding capacity of 18 tons;

(g) aggregate storage piles, with a maximum storage capacity of 30,300 tons;

(h) RAP storage piles, with a maximum storage capacity of 30,000 tons;

(b) The following is a list of the new emission unit(s) and pollution control device(s):

(1) One (1) 173 horsepower, diesel fuel-fired portable crusher and screener for processing reclaimed asphalt pavement (RAP), identified as EU002, approved for construction in 2012, with a maximum throughput capacity of 200 tons of RAP per hour.

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

(2) Blast furnace and/or electric arc steel slag storage piles, with a maximum anticipated pile size of 0.04 acres.

(3) Recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) storage piles, with a maximum anticipated pile size of 0.40 acres..

(c) Upon review of the permit and supporting documentation, IDEM OAQ, in collaboration with the source, determined that the following additional revisions were required to maintain the Source's FESOP Status:

(1) Recent testing performed on similar operations at another asphalt plant facility has shown that blast furnace slag emits higher SO2 emissions than were previously accounted for in standard asphalt plant emission calculations. Consequently, IDEM determined that the

emission factors developed during the testing should be applied to emissions from blast furnace slag use, and that permit requirements and conditions should be revised and/or added, as needed, to account for SO2 emissions generated by the addition of blast furnace slag to the aggregate mix. Additionally, similar testing has shown that SO2 emissions from electric arc steel mill slag are negligible and a limit is not needed for compliance with the FESOP.

Milestone has confirmed that they would like the flexibility to use blast furnace slag in their aggregate mix. Therefore, a new condition limiting the use of blast furnace slag in the aggregate mix has been added to the permit in order to ensure compliance with the one hundred (100) ton per year FESOP threshold for SO2, and making the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

This is a new requirement for this source. This is a Title I change.

Correspondingly, the existing natural gas, No. 2 fuel oil, and waste oil usage limits have been revised to accommodate the addition of the blast furnace slag to the permit in order to ensure compliance with the one hundred (100) ton per year FESOP threshold for SO2, and making the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

This is a Title I change.

(2) Milestone does not intend to grind shingles at this plant; therefore, they will be required to use/purchase only supplier certified asbestos-free factory seconds and/or post consumer waste shingles for use in their aggregate mix. This requirement will be added to the permit because it is the physical act of grinding that releases asbestos into the air. Consequently, the company performing the grinding would need to test the shingles, prior to grinding, in order for the testing to be effective. A new condition limiting the use of asphalt shingles in the aggregate mix to only those that are asbestos-free, will be added to the permit.

This is a new requirement for this source. This is a Title I change.

(3) A PM limit is not required to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable for the new RAP crushing/screening operation because these operations/activities are inherently limited by the FESOP and PSD asphalt production throughput limit established in the permit. The source can only crush as much material as it can use in the aggregate mix, and the calculations found on page 15 of 19, Appendices A.1 and A.2, each, estimate particulate emissions based on the total material needs of the asphalt production operation, not just the portion of the mix that is RAP. The unlimited, uncontrolled particulate emissions from the crushing and screening operations/activities, estimated at 8760 hours/year, are 50.60 tons per year. However, after implementing the below-listed asphalt production PSD avoidance limit of 1,306,817 tons per twelve (12) consecutive month period, the unlimited, uncontrolled particulate emissions from the crushing/screening operation, estimated at 8760 hours/year, decrease to 18.87 tons per year. Additionally, the PSD asphalt production throughput limit also inherently limits particulate emissions from the asphalt load-out and on-site yard, material processing and handling, material screening, and conveying, and the paved and unpaved roads.

(4) During this review, the emissions calculations were updated to reflect the source's most current "worst-case" operating conditions for all units, and includes emissions not previously counted. Additionally, since OAQ relies on the most up-to-date emission factors recommended by U.S. EPA, facility emissions have been characterized using the most recent version of U.S. EPA's AP-42.

(A) The most recent AP-42 emission factor has been used to characterize VOC emissions from the fuel combustion and the drying/mixing process. In order to ensure compliance with the one hundred (100) ton per year FESOP threshold for VOC, and to render the requirements of 326 IAC 2-7 Title V (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, a new FESOP pound per ton (#/ton) limit for VOC has been added to the permit. Additionally, in order to ensure compliance with the twenty five (25) tons/yr threshold, and to render the requirements of 326 IAC 8-1-6 BACT not applicable, a new (#/ton) limit for VOC has been added to the permit

This is a Title I change.

(B) The most recent AP-42 emission factors have been used to characterize emissions from fuel combustion in the dryer/mixer. As a result, the following applies:

(α) A new ash content limit for waste oil (a limiting factor for PM, PM10, PM2.5) has been added to the permit to ensure compliance with the one hundred (100) ton per year FESOP threshold for each pollutant and making the requirements of 326 IAC 2-7 Title V (Part 70) not applicable;

This is a Title I change.

(β) A new chlorine content limit for waste oil (a limiting factor for HAPs) has been added to the permit to ensure compliance with the ten (10) ton per year single HAP, and the twenty-five (25) ton per year combined HAP, thresholds and making the requirements of 326 IAC 2-7 Title V (Part 70) not applicable;

This is a Title I change.

(χ) A new lead content limit for waste oil (another limiting factor for HAPs) has been added to the permit to ensure compliance with the ten (10) ton per year single HAP, and the twenty-five (25) ton per year combined HAP, thresholds and making the requirements of 326 IAC 2-7 Title V (Part 70) not applicable;

This is a Title I change.

(C) The most recent AP-42 emission factor has also been used to characterize VOC emissions from the cold-mix asphalt production and storage. Moreover, the inclusion of the additional cold-mix emulsions has been accounted for in the calculations. The cold-mix VOC limit has been revised to accommodate these changes, in addition to the effect of the new asphalt production limit on the VOC emissions from the dryer/mixer unit. The existing cold-mix asphalt limit has been increased from 12.0 to 53.44 tons per year.

This is a Title I change.

(D) HAP emissions from the cold-mix asphalt production and storage, not previously accounted for in FESOP Renewal F145-23091-03230, have been calculated. Moreover, the inclusion of the additional cold-mix emulsions has been accounted for in the calculations. The revised cold-mix VOC limit is sufficient to limit the cold-mix asphalt production rate such that source wide potential to emit of any single HAP is limited to less than ten (10) tons per year, and any combination of HAPs is limited to less than twenty-five (25) tons per year; and therefore, rendering 326 IAC 2-7 (Part

70) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable. No change to the permit occurred because of this update.

(5) The existing permit specifies the compliance with the SO2 limits in terms of fuel equivalency, however, the source has indicated that they would prefer compliance be demonstrated by equation, as indicated in the "PTE of the Entire Source after Issuance of the FESOP Revision" section, below ;

This is a Title I change.

(d) Finally, IDEM OAQ has determined that the following additional revisions were required.

(1) Starting July 1, 2011, (pursuant to 326 IAC 2-7-1(39)) greenhouse gases (GHGs) emissions are subject to regulation at a source with a potential to emit 100,000 tons per year or more of CO2 equivalent emissions (CO2e). Therefore, CO2e emissions have been calculated for this source (see TSD Appendix A.1 for detailed calculations, and page 7 of 95 of this TSD for a summary table). Based on the calculations, the unlimited potential to emit greenhouse gases from the entire source is 97,532.74, which is less than 100,000 tons of CO2e per year. Since this source previously opted to be a FESOP source, a FESOP emissions cap for greenhouse gases (GHGs) has been added to the permit. No other changes have been made to the permit as a result of this review.

This is a new requirement for this source. This is a Title I change.

(2) A number of new Federal Area Source National Emission Standards for Hazardous Air Pollutants (NESHAPs) have been promulgated since the issuance of FESOP Renewal No.: F063-25985-03154 on April 24, 2007. Therefore, IDEM has performed an applicability determination for the following Federal Rules:

(A) 40 CFR 63, Subpart CCCCCC (6C);

(B) 40 CFR 63, Subpart JJJJJJ (6J); and

(C) 40 CFR 63, Subpart AAAAAAA (7A).

No change to the permit was made as a result of this review.

(3) PM2.5 emissions have been calculated for all applicable units in preparation for compliance with the May 8, 2008 promulgation of Prevention of Significant Deterioration (PSD) requirements for PM2.5 emissions. PM2.5 limits have been added to the permit as necessary to ensure that PM2.5 emissions from the entire source are less than the Title V major source threshold of one hundred (100) tons per year, in order that the source may preserve its FESOP status.

This is a new requirement for this source. This is a Title I change.

(4) IDEM has determined that a majority of the hot-mix asphalt plant hot oil heating systems are indirect-fired units and meet the definition of a boiler under 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units). Therefore, as part of this revision, IDEM has performed an applicability determination for the existing No. 2 distillate fuel oil fired asphalt storage tank heater, identified as emission unit No. 11, and No. 2 distillate fuel oil fired hot oil heater, identified as emission unit No. 13, and determined that the rule applies to the hot oil heater, identified as emission unit No. 13.

This is a new requirement for this source. This is a Title I change.

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

See Appendices A.1 and A.2 of this TSD for detailed emission calculations.

Permit Level Determination – FESOP Revision

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

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PTE of Proposed Revision (tons/year)										
Process/ Emission Unit	PM	PM_{10}*	$PM_{2.5}$*	SO_2	NO_x	VOC	CO	GHGs** as CO2e	Total HAPs	Worst Single HAP
Ducted/Ductable Emissions										
Dryer Fuel Combustion (worst case)	~~298.65~~ **275.71**	~~237.98~~ **219.71**	**219.71**	~~543.26~~ **465.65**	112.35	~~4.93~~ **4.22**	49.67	**95,457.70**	~~65.05~~ **60.53**	~~65.04~~ **55.75** (HCL)
Dryer/Mixer (Process)	49,056.00	11,388.00	**2,628.00**	~~na~~ **101.62**	96.36	56.06	227.76	**58,257.50**	~~15.64~~ **18.68**	5.43 (formaldehyde)
Dryer/Mixer Slag Processing	**0**	**0**	**0**	**544.52**	**0**	**0**	**0**	**0**	**0**	**N/A**
Hot Oil Heater & Tank Heater Fuel Combustion (worst case)	0.11	0.18	**0.18**	~~3.67~~ **3.78**	1.06	0.04	0.63	**1,202.06**	~~negl.~~ **0.017**	~~negl.~~ **0.013 (hexane)**
Astec Crusher Fuel Combustion	**1.64**	**1.64**	**1.64**	**1.54**	**23.39**	**1.91**	**5.04**	**872.98**	**0.021**	**0.006 (formaldehyde)**
"Worst Case" Emissions α	~~49,056.11~~ **49,057.75**	~~11,388.18~~ **11,389.82**	**2,629.82**	~~547.03~~ **1,015.48**	~~113.41~~ **136.80**	~~56.11~~ **58.01**	~~228.39~~ **233.42**	**97,532.74**	~~65.05~~ **60.57**	~~65.04~~ **55.75** (HCL)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, and On-Site Yard	1.94	1.94	**1.94**	0	0	~~28.2~~ **30.01**	~~4.43~~ **5.05**	**0**	~~negl.~~ **0.50**	~~negl.~~ **0.16 (formaldehyde)**
Material Storage Piles	~~0.31~~ **1.02**	~~0.11~~ **0.36**	**0.36**	0	0	0	0	**0**	0	N/A
Material Processing and Handling	**11.32**	**5.35**	**0.81**	0	0	0	0	**0**	0	N/A
Material Crushing, Screening, and Conveying	~~3.59~~ **55.59**	~~1.70~~ **20.31**	**20.31**	0	0	0	0	**0**	0	N/A
Unpaved and Paved Roads (worst case)	~~306.97~~ **157.98**	~~65.17~~ **40.26**	**4.03**	0	0	0	0	**0**	0	N/A
Cold Mix Asphalt Production	0	0	**0**	0	0	~~876.00~~ **42,109.32**	0	**0**	~~na~~ **10,983.67**	~~na~~ **3,789.84 (xylenes)**
Gasoline Fuel Transfer and Dispensing	0	0	**0**	0	0	0	0	**0**	0	N/A
Volatile Organic Liquid Storage Vessels***	0	0	**0**	0	0	negl.	0	**0**	negl.	negl.
Total Fugitive Emissions	~~611.56~~ **227.85**	~~306.90~~ **68.22**	**27.44**	0	0	~~904.20~~ **42,139.33**	~~4.43~~ **5.05**	**0**	~~na~~ **10,983.67**	~~na~~ **3,789.84 (xylenes)**
Total PTE of Proposed Revision	~~49,667.57~~ **49,285.60**	~~11,695.08~~ **11,458.04**	**2,657.26**	~~547.03~~ **1,015.48**	~~113.41~~ **136.80**	~~960.31~~ **42,197.35**	~~232.82~~ **238.47**	**97,532.74**	~~65.05~~ **11,044.74**	~~65.04 (HCL)~~ **3,789.84 (xylenes)**
Title V Major Source Thresholds	N/A	100	100	100	100	100	100	100,000	10	25
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	N/A	N/A
Emission Offset/ Nonattainment NSR Major Source Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

negl = negligible N/A = Not applicable na = Not accounted for in previous permit HCL = hydrogen chloride

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

** The 100,000 CO2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

*** Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible.

α Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Worst Case Emissions from Hot Oil Heater Fuel Combustion

This FESOP is being revised through a FESOP Significant Permit Revision (SPR) pursuant to 326 IAC 2-8-11.1(f)(1)(E) because the revision involves the addition of blast furnace slag, with potential to emit (PTE) SO2 greater than 25 tons per year, a new diesel fuel-fired portable crusher and screener, with potential to emit (PTE) NOx greater than 25 tons per year, and the inclusion of additional cold-mix emulsions, with potential to emit (PTE) VOC greater than 25 tons per year. Additionally, this FESOP is being revised through a FESOP SPR pursuant to 326 IAC 2-8-11.1(g) because it involves adjustment to the existing source-wide emissions limitations to maintain the FESOP status of the source (see "PTE of the Entire Source after Issuance of the FESOP Revision Section", below).

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.

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Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)											
Process/ Emission Unit	PM	PM_{10}*	**$PM_{2.5}$***	SO_2	NO_x	VOC	CO	**GHGs** as CO2e**	Total HAPs	Worst Single HAP
Ducted/Ductable Emissions										
Dryer Fuel Combustion (worst case) (1)	~~50.83~~ **44.52**	~~62.48~~ **35.48**	**35.48**	~~70.00~~ **75.19**	~~88.94~~ **74.55**	~~58.63~~ **2.16**	~~na~~ **32.96**	**47,434.22**	~~24.41~~ **10.34**	~~8.75~~ **9.00** (HCL)
Dryer/Mixer (2) (Process)	~~50.83~~ **161.64**	~~62.48~~ **71.51**	**86.72**	~~na~~ **37.90**	~~na~~ **35.94**	~~58.63~~ **20.91**	84.94	**21,727.14**	~~na~~ **6.96**	~~na~~ **1.54 (formaldehyde)**
Dryer/Mixer Slag Processing (3)	**0**	**0**	**0**	**18.50**	**0**	**0**	**0**	**0**	**0**	**N/A**
Hot Oil Heater & Tank Heater Fuel Combustion (worst case)	0.11	0.18	**0.18**	~~3.67~~ **3.78**	1.06	0.04	0.63	**1,202.06**	~~negl.~~ **0.017**	~~negl.~~ **0.013 (hexane)**
Astec Crusher Fuel Combustion	**1.64**	**1.64**	**1.64**	**1.54**	**23.29**	**1.91**	**5.04**	**872.98**	**0.021**	**0.006 (formaldehyde)**
Worst Case Emissions*	~~50.94~~ **163.39**	~~62.66~~ **73.33**	**88.54**	~~73.78~~ **99.00**	~~90.00~~ **99.00**	~~58.67~~ **22.86**	~~85.57~~ **90.61**	**49,509.25**	~~24.41~~ **10.37**	~~8.75~~ **9.00** (HCL)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, and On-Site Yard (3)	~~1.94~~ **0.72**	~~1.94~~ **0.72**	**0.72**	0	0	~~28.2~~ **11.19**	~~4.43~~ **1.88**	**0**	~~na~~ **0.19**	~~na~~ **0.09 (formaldehyde)**
Material Storage Piles	~~0.65~~ **1.02**	~~0.23~~ **0.36**	**0.36**	0	0	0	0	**0**	0	N/A
Material Processing and Handling (3)	~~3.59~~ **4.22**	~~1.70~~ **2.00**	**0.30**	0	0	0	0	**0**	0	N/A
Material Crushing, Screening, and Conveying (3)	~~3.59~~ **20.73**	~~1.70~~ **7.57**	**7.57**	0	0	0	0	**0**	0	N/A
Unpaved and Paved Roads (worst case) (1)	~~153.49~~ **58.92**	~~32.59~~ **15.02**	**1.50**	0	0	0	0	**0**	0	N/A
Cold Mix Asphalt Production (4)	0	0	0	0	0	~~12.00~~ **53.44**	0	**0**	~~na~~ **13.94**	~~na~~ **4.81 (xylenes)**
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	**0**	0	N/A
Volatile Organic Liquid Storage Vessels ***	0	0	0	0	0	negl.	0	**0**	negl.	negl.
Total Fugitive Emissions	~~159.33~~ **85.61**	~~36.34~~ **25.67**	**10.46**	0	0	~~40.20~~ **64.63**	~~4.43~~ **1.88**	**0**	~~na~~ **14.13**	~~na~~ **4.81 (xylenes)**
Total Limited/ Controlled Emissions	~~210.27~~ **249.00**	99.00	**99.00**	~~73.78~~ **99.00**	~~90.00~~ **99.00**	~~98.87~~ **87.49**	~~90.00~~ **92.49**	**49,509.25**	~~24.41~~ **24.50**	~~8.75~~ **9.00** (HCL)
Title V Major Source Thresholds	N/A	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	N/A	N/A
Emission Offset/ Nonattainment NSR Major Source Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

negl = negligible N/A = Not applicable HCL = hydrogen chloride

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". Additionally, US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

** The 100,000 CO2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

*** Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible.

(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 annual production limit to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP).

(4) 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. Any control equipment is considered federally enforceable only after issuance of this FESOP permit revision, and only to the extent that the effect of the control equipment is made

practically enforceable in the permit. *(Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted)*

Process/ Emission Unit	Potential To Emit of the Entire Source after Issuance of the Revision (tons/year)									
	PM	PM_{10}*	$PM_{2.5}$**	SO_2	NO_x	VOC	CO	GHGs** as CO2e	Total HAPs	Worst Single HAP
Ducted/Ductable Emissions										
Dryer Fuel Combustion (worst case) (1)	44.52	35.48	35.48	75.19	74.55	2.16	32.96	47,434.22	10.34	9.00 (HCL)
Dryer/Mixer (2) (Process)	161.64	71.51	86.72	37.90	35.94	20.91	84.94	21,727.14	6.96	2.03 (formaldehyde)
Dryer/Mixer Slag Processing (3)	0	0	0	18.50	0	0	0	0	0	N/A
Hot Oil Heater & Tank Heater Fuel Combustion (worst case)	0.11	0.18	0.18	3.78	1.06	0.04	0.63	1,202.06	0.017	0.013 (hexane)
Astec Crusher Fuel Combustion	1.64	1.64	1.64	1.54	23.29	1.91	5.04	872.98	0.021	0.006 (formaldehyde)
Worst Case Emissions*	**163.39**	**73.33**	**88.54**	**99.00**	**99.00**	**22.86**	**90.61**	**49,509.25**	**10.37**	**9.00 (HCL)**
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, and On-Site Yard (3)	0.72	0.72	0.72	0	0	11.19	1.88	0	0.19	0.06 (formaldehyde)
Material Storage Piles	1.02	0.36	0.36	0	0	0	0	0	0	N/A
Material Processing and Handling (3)	4.22	2.00	0.30	0	0	0	0	0	0	N/A
Material Screening, and Conveying (3)	20.73	7.57	7.57	0	0	0	0	0	0	N/A
Unpaved and Paved Roads (worst case) (1)	58.92	15.02	1.50	0	0	0	0	0	0	N/A
Cold Mix Asphalt Production (4)	0	0	0	0	0	53.44	0	0	13.94	4.81 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	N/A
Volatile Organic Liquid Storage Vessels ***	0	0	0	0	0	negl.	0	0	negl.	negl.
Total Fugitive Emissions	**85.61**	**25.67**	**10.46**	**0**	**0**	**64.63**	**1.88**	**0**	**14.13**	**4.81 (xylenes)**
Total Limited/ Controlled Emissions	**249.00**	**99.00**	**99.00**	**99.00**	**99.00**	**87.49**	**92.49**	**49,509.25**	**24.50**	**9.00 (HCL)**
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	N/A	250	250	250	250	100,000	N/A	N/A
Emission Offset/ Nonattainment NSR Major Source Thresholds	N/A	N/A	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A

negl = negligible N/A = Not applicable HCL = hydrogen chloride

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant.

** The 100,000 CO2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

*** Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible.

(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 annual production limit to comply with 326 IAC 2-2 (PSD) & 326 IAC 2-8 (FESOP).

(4) Limited PTE based upon maximum annual VOC usage limit to comply with 326 IAC 2-8 (FESOP).

(a) FESOP Status

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

(1) In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), PM10, PM2.5, SO2, VOC, and CO emissions from the dryer/mixer process shall be limited as follows:

(A) The amount of hot-mix asphalt processed shall not exceed 1,306,817 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is an existing requirement for this source.*

(B) The PM10 emissions from the dryer/mixer shall not exceed 0.109 pounds per ton of asphalt processed. *This is a change from 0.036 pounds per ton of asphalt processed. This is a Title I change.*

(C) The PM2.5 emissions from the dryer/mixer shall not exceed 0.133 pounds per ton of asphalt processed. *This is a new requirement for this source. This is a Title I change.*

(D) The SO2 emissions from the dryer/mixer shall not exceed 0.058 pounds per ton of asphalt processed. *This is a new requirement for this source. This is a Title I change.*

(E) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed. *This is a new requirement for this source. This is a Title I change.*

(F) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed. *This is an existing requirement for this source.*

Compliance with these limits, combined with the potential to emit PM10, PM2.5, SO2, VOC, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, SO2, VOC, and CO to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-1.1-5 (Nonattainment New Source Review) not applicable.

(2) In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), HAP emissions from the usage of asphalt shingles in the dryer/mixer process shall be limited as follows:

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)) not applicable, the Permittee shall not grind recycled asphalt shingles (RAS) on-site and shall only use certified asbestos-free recycled shingles, post consumer waste and/or factory seconds, as an additive in the aggregate mix. *This is a new requirement for this source. This is a Title I change.*

Compliance with this limit, combined with the potential to emit HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and of 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.

(3) In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), SO2, NOx, and HAP emissions from the dryer/mixer fuel combustion, in conjunction with the use of slag in the aggregate mix, shall be limited as follows:

(A) Fuel and Slag Specifications

(i) The sulfur content of No. 2 fuel oil shall not exceed 0.50% by weight. *This is an existing requirement for this source.*

(ii) The sulfur content of the waste fuel oil shall not exceed 0.75% by weight. *This is an existing requirement for this source.*

(iii) The waste oil combusted shall not contain more than 0.20% chlorine, 1.02% ash, and 0.01% lead. *This is a new requirement for this source. This is a Title I change*.

(iv) The HCl emissions shall not exceed 13.2 pounds of HCl per 1,000 gallons of waste oil burned. *This is a new requirement for this source. This is a Title I change*.

(v) The sulfur content of the Blast Furnace slag shall not exceed 1.50% by weight. *This is a new requirement for this source. This is a Title I change*.

(vi) The SO2 emissions from the dryer/mixer shall not exceed 0.740 pounds per ton of Blast Furnace slag processed in the aggregate mix. *This is a new requirement for this source. This is a Title I change*.

(vii) The sulfur content of the Steel slag shall not exceed 0.66% by weight. *This is a new requirement for this source. This is a Title I change*.

(viii) The SO2 emissions from the dryer/mixer shall not exceed 0.0014 pounds per ton of Steel slag processed in the aggregate mix. *This is a new requirement for this source. This is a Title I change*.

(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 shall be limited as follows:

(i) Natural gas usage shall not exceed 785 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from 936.2 million cubic feet (MMCF) per twelve (12) consecutive month period. This is a Title I change*;

(ii) No. 2 fuel oil usage shall not exceed 2,117,904 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from the following equivalencies: every 1,000 gallons of No. 2 distillate fuel oil burned shall be equivalent to 712 gallons of re-refined waste oil based on SO2 emissions, such that the total gallons of re-refined waste oil and re-refined waste oil equivalent input does not exceed the limit specified, and every 1,000 gallons of No. 2 distillate fuel oil burned shall be equivalent to 0.126 MMCF of natural gas burned based on NOx emissions, such that the total MMCF of natural gas and natural gas equivalent input does not exceed the limit specified. This is a Title I change*.

(iii) Waste oil usage shall not exceed 1,363,911 gallons per twelve (12) consecutive month period, with compliance determined at the end of each

month. *This is a change from 1,269,841 gallons per twelve (12) consecutive month period. This is a Title I change*; and

Note: The source is only permitted to burn the above-mentioned fuels. *This is a new requirement for this source. This is a Title I change.*

(iv) The Blast Furnace slag usage shall not exceed 50,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new requirement for this source. This is a Title I change.*

Note: A Steel slag usage limit is not required for the source to comply with their FESOP SO2 Limit, since unlimited usage results in a PTE SO2 of only 1.03 tons/yr (see TSD Appendix A.1, page 6 of 18). To form a conservative estimate, SO2 emissions are based on the "worst case" assumption that steel slag usage corresponds to 100% of the aggregate used to produce hot-mix asphalt (see TSD Appendix A.2, page 6 of 18).

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

(i) SO_2 emissions from the dryer/mixer shall not exceed 93.69 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new requirement for this source. This is a Title I change.*

The Permittee shall limit fuel and blast furnace slag usage in the dryer/mixer burner according to the following formula: *This is a change from determining fuel usage by equivalency.*

$$S = \frac{G(E_G) + O(E_O) + W(E_W) + B(E_B) + T(E_T)}{2{,}000 \text{ lbs/ton}}$$

where:
S = tons of sulfur dioxide emissions for a 12-month consecutive period
G = million cubic feet of natural gas used in the last 12 months
O = gallons of No. 2 fuel oil used in the last 12 months
W = gallons of Waste oil used in the last 12 months
B = tons of Blast Furnace slag used in the last 12 months
T = tons of Steel slag used in the last 12 months

Emission Factors
E_G = 0.60 lb/million cubic feet of natural gas
E_O = 71.0 lb/1000 gallons of No. 2 fuel oil
E_W = 110.3 lb/1000 gallons of Waste oil
E_B = 0.74 lb/ton of Blast Furnace slag used
E_T = 0.0014 lb/ton of Steel slag used

(ii) NOx emissions from the dryer/mixer shall not exceed 74.55 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new requirement for this source. This is a Title I change.*

The Permittee shall limit fuel in the dryer/mixer burner according to the following formula: *This is a change from determining fuel usage by equivalency.*

$$\frac{N = G(E_G) + O(E_O) + W(E_W)}{2{,}000 \text{ lbs/ton}}$$

where:
N = tons of nitrogen oxide emissions for a 12-month consecutive period;
G = million cubic feet of natural gas used in the last 12 months;
O = gallons of No. 2 fuel oil used in the last 12 months;
W = gallons of reclaimed/waste oil used in the last 12 months.

Emission Factors
E_G = 190 lb/million cubic feet of natural gas;
E_O = 24.0 lb/1000 gallons of No. 2 fuel oil;
E_W = 19.0 lb/1000 gallons of waste oil.

(iii) The unlimited PTE CO2e of this source is less than 100,000 tons per year. Therefore, a CO2e emissions limit is not required to allow for compliance with FESOP.

Compliance with these limits, combined with the potential to emit SO2, NOx, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO2 and NOx to less than 100 tons per twelve (12) consecutive month period, each, any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period and 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.

(4) In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the VOC emissions from cold-mix (cutback) asphalt production shall be limited as follows:

(A) VOC emissions from the sum of the binders shall not exceed 53.44 tons per twelve (12) consecutive month period with compliance determined at the end of each month. *This is a change from 12.0 tons of VOC per twelve (12) consecutive month period. This is a Title I change.*

(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 95.0% by weight of VOC solvent evaporating. *This is a new requirement for this source. This is a Title I change.*

(ii) Cut back asphalt medium cure, containing a maximum of 28.6% of the liquid binder by weight of VOC solvent and 70.0% by weight of VOC solvent evaporating. *This is a new requirement for this source. This is a Title I change*.

(iii) Cut back asphalt slow cure, containing a maximum of 20.0% of the liquid binder by weight of VOC solvent and 25.0% by weight of VOC solvent evaporating. *This is a new requirement for this source. This is a Title I change.*

(iv) Emulsified asphalt with solvent, containing a maximum of 15.0% of liquid binder by weight of VOC solvent and 46.4% by weight of the VOC solvent in the liquid blend evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be seven percent (7%) or less of the total emulsion by volume. *This is a new requirement for this source. This is a Title I change.*

(v) Other asphalt with solvent binder, containing a maximum 25.9% of the liquid binder of VOC solvent and 2.5% by weight of the VOC solvent evaporating. *This is an existing requirement for this source.*

(C) When using only one type of liquid binder per twelve (12) consecutive month period, the usage of liquid binder shall be limited as follows:

(i) The amount of VOC solvent used in rapid cure cutback asphalt shall not exceed 56.25 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new requirement for this source. This is a Title I change.*

(ii) The amount of VOC solvent used in medium cure cutback asphalt shall not exceed 76.34 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a Title I change.*

(iii) The amount of VOC solvent used in slow cure cutback asphalt shall not exceed 213.76 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new requirement for this source. This is a Title I change.*

(iv) The amount of VOC solvent used in emulsified asphalt shall not exceed 115.71 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new requirement for this source. This is a Title I change.*

(v) The amount of VOC solvent used in all other asphalt shall not exceed 2,137.64 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from 480.00 tons of VOC solvent per twelve (12) consecutive month period. This is a Title I change.*

(D) When using more than one liquid binder per twelve (12) consecutive month period, VOC emissions shall be limited as follows:

(i) The VOC solvent allotments in (C)(i) through (C)(v) 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. *This is a new requirement for this source. This is a Title I change.*

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

Type of Binder	Adjustment Factor
Cutback Asphalt Rapid Cure	1.053
Cutback Asphalt Medium Cure	1.429
Cutback Asphalt Slow Cure	4.000
Emulsified Asphalt	2.155
Other Asphalt	40.0

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

(b) PSD Minor Source

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

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

(1) The amount of hot-mix asphalt processed shall not exceed 1,306,817 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is an existing requirement for this source.*

(2) PM emissions from the dryer/mixer shall not exceed 0.247 pounds per ton of asphalt processed. *This is a change from 0.029 pounds per ton of asphalt processed. This is a Title I change.*

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

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

(a) 40 CFR 60, Subpart OOO - Standards for Nonmetallic Mineral Processing Plants

This existing stationary drum mix asphalt plant is subject to the New Source Performance Standard for Nonmetallic Mineral Processing Plants, 40 CFR 60, Subpart OOO (3O) (326 IAC 12), whenever the diesel fuel-fired portable crusher and screener is being used to reduce the size of nonmetallic minerals embedded in the Recycled Asphalt Pavement (RAP). *This is a new requirement for this source. This is a Title I change.*

The units subject to this rule include the following:

(1) crushers;

(2) grinding mills; and

(3) subsequent affected facilities up to, but not including, the first storage silo or bin, such as:

(A) bucket elevators;

(B) belt conveyors;

(C) screening operations; and

(D) bagging operations;

Therefore, pursuant to 40 CFR 60.672(b) and (c), fugitive particulate matter emissions from any transfer point on belt conveyors or from any other of the above-listed facilities, except the crusher, shall not exceed seven percent (7%) opacity, and fugitive particulate matter emissions from the crusher shall not exceed twelve percent (12%) opacity.

The source will comply with this rule by applying the management techniques outlined in their Fugitive Dust Plan (included as Attachment A of the permit).

The crushing operation is therefore subject to the following requirements of 40 CFR 60, Subpart OOO (included as Attachment C of the permit):

(1) 40 CFR 60.670(a), (d), (e), and (f)

(2) 40 CFR 60.671

(3) 40 CFR 60.672(b), (d), and (e)

(4) 40 CFR 60.673

(5) 40 CFR 60.674(b)

(6) 40 CFR 60.675(a), (c)(1)(i), (ii), (iii), (c)(3), (d), (e), (g), and (i)

(7) 40 CFR 60.676(a), (b)(1), (f), (h), (i), (j), and (k)

(8) Table 1 and Table 3

Note: this NSPS includes testing requirements applicable to this source.

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the crushing operation except as otherwise specified in 40 CFR 60, Subpart OOO.

(b) <u>40 CFR 60, Subpart IIII - NSPS for Stationary Compression Ignition Internal Combustion Engines</u>
The requirements of the New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart IIII (4I) (326 IAC 12), are not included in the permit, because the diesel fuel-fired portable crusher and screener meets the definition of a nonroad engine, as defined in 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is therefore not considered a stationary internal combustion engine as defined in 40 CFR 60.4219.

(c) <u>40 CFR 60, Subpart JJJJ - NSPS for Stationary Spark Ignition Internal Combustion Engines</u>
The requirements of the New Source Performance Standard for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60, Subpart JJJJ (4J) (326 IAC 12), are not included in the permit, because the diesel fuel-fired portable crusher and screener is compression ignition and meets the definition of a nonroad engine, as defined in 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is therefore not considered a stationary internal combustion engine as defined in 40 CFR 60.4248.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(a) <u>40 CFR 63.6580, Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines</u>
The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63.6580, Subpart ZZZZ (4Z) (326 IAC 20-84), are not included in the permit, because the diesel fuel-fired portable crusher and screener meets the definition of a nonroad engine, as defined in 40 CFR 1068.30, and is therefore not considered a stationary reciprocating internal combustion engine, as defined in 40 CFR 63.6675.

(b) 40 CFR 63, Subpart CCCCCC - NESHAP for the Source Category Identified as Gasoline Dispensing Facilities (GDF)
The requirements of this National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Source Category Identified as Gasoline Dispensing Facilities (GDF), 40 CFR 63.11110, Subpart CCCCCC (6C) (326 IAC 20), are not included in the permit, because this stationary drum mix asphalt pavement production plant has no gasoline dispensing facilities.

(c) 40 CFR 63, Subpart JJJJJJ - NESHAPs for Industrial, Commercial, and Institutional Boilers Area Sources

(1) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ (6J), are not included in the permit for the dryer/mixer burner, the diesel fuel-fired portable crusher and screener, or the No. 2 distillate fuel oil fired asphalt storage tank heater, because although this existing source is an area source of hazardous air pollutants (HAP), as defined in §63.2, the dryer/mixer burner, diesel fuel-fired portable crusher and screener, and No. 2 distillate fuel oil fired asphalt storage tank heater, are each a direct-fired process unit and not a boiler, as defined in 40 CFR 63.11237.

(2) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ (6J), are not included in the permit for the 2.2 MMBtu/hr hot oil heater, because although this existing source is an area source of hazardous air pollutants (HAP), as defined in §63.2, and the hot oil heater fires No. 2 fuel oil, it does not meet the definition of a boiler, as defined in §63.11237, since heat transfer oil and not water is used as the indirect heating media.

(d) 40 CFR 63, Subpart AAAAAAA - NESHAP for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing
The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart AAAAAAA (7A) (326 IAC 20), are not included in the permit, because although the stationary drum mix asphalt plant is an area source of hazardous air pollutant (HAP) emissions, as defined in §63.2, it does not meet the definition of an asphalt processing operation or an asphalt roofing manufacturing operation, as defined in §63.11566, since it does not engage in the preparation of asphalt flux or asphalt roofing materials.

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

Compliance Assurance Monitoring (CAM)

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

State Rule Applicability Determination - Entire Source

The following state rules are applicable to the proposed revision:

(a) 326 IAC 2-8-4 (FESOP)
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP). See 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. See the "PTE of the Entire Source after Issuance of the FESOP Revision" Section above.

(c) 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, 326 IAC 2-6 does not apply.

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

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

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

(e) 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.

(f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall continue to be controlled according to the Fugitive Dust Control Plan, which is included as Attachment A to the permit.

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

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

State Rule Applicability Determination - Individual Facilities

Drum Mix Asphalt Plant

(a) 326 IAC 8-1-6 (VOC rules: General Reduction Requirements for New Facilities)
The unlimited potential VOC emissions from the existing dryer/mixer are greater than twenty-five (25) tons per year. However, the source has opted to limit the potential VOC emissions from the existing dryer/mixer to less than twenty-five (25) tons per year, therefore, rendering the requirements of 326 IAC 8-1-6 Best Available Control Technology (BACT) not applicable.

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

(1) The amount of hot-mix asphalt processed shall not exceed 1,306,817 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is an existing requirement for this source.*

(2) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed. *This is a new requirement for this source. This is a Title I change.*

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

See Appendix A for the detailed calculations.

(b) There are no other 326 IAC 8 Rules that are applicable to the stationary drum mix asphalt plant.

Material Handling - Slag and Recycled Shingles

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The existing stationary drum mix asphalt pavement production plant, including the systems for screening, handling, storing, and weighing hot aggregate (which includes slag and recycled shingles), is subject to 40 CFR 60, Subpart I (Standards of Performance for Hot Mix Asphalt Facilities), which incorporated by reference through 326 IAC 12. Pursuant to 326 IAC 6-3-1(c)(5), the aggregate dryer/mixer is not subject to the requirements of 326 IAC 6-3 because it is subject to the more stringent particulate limit established in 326 IAC 12.

Diesel Fuel-fired Portable Crusher & Screener

(a) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
The diesel fuel-fired portable crusher and screener is not a source of indirect heating, as defined in 326 IAC 1-2-19 “Combustion for indirect heating”. Therefore, the requirements of 326 IAC 6-2 do not apply, and are not included in the permit.

(b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) applicability is discussed in the "Crushing/Screening Operations" section below.

(c) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)
The unlimited potential to emit SO2 from the diesel fuel-fired portable crusher and screener is less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations) do not apply and are not included in the permit.

See Appendix A, for the detailed calculations.

(d) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The unlimited potential to emit VOCs from the diesel fuel-fired portable crusher and screener are less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 (General Reduction Requirements for New Facilities) do not apply and are not included in the permit.

See Appendix A.1 for the detailed calculations.

(e) 326 IAC 9-1 (Carbon Monoxide Emission Limits)
The diesel fuel-fired portable crusher and screener is not one of the source types listed in 326 IAC 9-1-2. Therefore, the requirements of 326 IAC 9-1 (Carbon Monoxide Emission Limits) do not apply and are not included in the permit.

(f) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category)
The diesel fuel-fired portable crusher and screener does not meet the definition of an affected facility, as defined in 326 IAC 10-3-1(a), because it has a maximum a heat input of less than two hundred fifty million (250,000,000) British thermal units per hour (MMBtu). Therefore, the requirements of 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category) do not apply and are not included in the permit.

Crushing/Screening Operation

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the RAP crushing and screening operation shall not exceed 58.51 pounds per hour when operating at a process weight rate of 200 tons per hour. The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

The source shall use wet suppression at all times the crusher, screens, and associated conveyors are in operation in order to comply with this limit.

See Appendix A, for the detailed calculations.

Asphalt Storage Tank Heater and Hot Oil Heater

(a) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)

(1) The existing 0.45 MMBtu/hr No. 2 distillate fuel oil fired asphalt storage tank heater is a direct-fired process unit, and not an indirect heating unit, as defined in 326 IAC 1-2-19. Therefore, the requirements of 326 IAC 6-2 do not apply and are not included in the permit.

(2) The existing hot oil heater, having a maximum rated heat input capacity of 1.25 MMBtu/hr, is subject to 326 IAC 6-2-4 because it was constructed after the rule applicability date of September 21, 1983, and meets the definition of an indirect heating unit, as defined in 326 IAC 1-2-19, since it combusts fuel to produce usable heat that is to be transferred through a heat-conducting materials barrier or by a heat storage medium to a material to be heated so that the material being heated is not contacted by, and adds no substance to the products of combustion.

Pursuant to 326 IAC 6-2-4(a), for a total source maximum operating capacity rating of less than ten (10) MMBtu/hr, the pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input shall not exceed six tenths (0.6) pounds per MMBtu (lb/MMBtu).

Therefore, particulate emissions from the hot oil heater shall not exceed six tenths (0.6) pounds per MMBtu heat input.

(b) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The existing 0.45 MMBtu/hr No. 2 distillate fuel oil fired asphalt storage tank heater does not meet the definition of a "manufacturing process", as defined in 326 IAC 6-3-1.5(2). Therefore, the asphalt storage tank heater is exempt from the requirements of 326 IAC 6-3, and the requirements are not included in the permit.

Cold-mix Asphalt Production and Storage

(a) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The unlimited potential to emit of HAPs from the inclusion of additional cold-mix emulsions to the cold-mix asphalt production operation is 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 shall 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 proposed revision is not subject to the requirements of 326 IAC 2-4.1. See the "PTE of the Entire Source after Issuance of the FESOP Revision" Section above.

See Appendix A.1 for the detailed calculations.

(b) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The existing cold-mix asphalt manufacturing operation and storage piles, a continued source of potential VOC emissions greater than twenty-five (25) tons per year, is still subject to the requirements of 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving); therefore, the requirements of 326 IAC 8-1-6 BACT do not apply and are not included in the permit.

See Appendix A 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: *This is an existing requirement for this source.*

(a) penetrating prime coating;

(b) stockpile storage; and

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

(d) 326 IAC 8-6-1 (Organic Solvent Emission Limitations)
The unlimited potential to emit VOCs from the inclusion of additional cold-mix emulsions to the existing cold-mix asphalt production operation is greater than one hundred (100) tons per year; however, the source has elected to continue to limit their VOC emissions to less than one hundred (100) tons per year. Additionally, the cold-mix asphalt production and storage operation is still subject to the requirements of 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving). Therefore, the requirements of 326 IAC 8-6-1 (Organic Solvent Emission Limitations) do not apply to the cold-mix asphalt production and storage operation and are not included in the permit.

See Appendix A.1 for the detailed calculations.

(e) There are no other 326 IAC 8 Rules that are applicable to the cold-mix asphalt production and storage operation.

Compliance Determination, Monitoring and Testing Requirements

(a) The compliance determination requirements applicable to this proposed revision are as follows:

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

(2) The annual hot-mix asphalt production rate will be used to verify compliance with the FESOP PM2.5 and VOC emission limitations, and the BACT avoidance VOC emission limitation.

(3) The slag and fuel characteristics (i.e., sulfur and chlorine content) and usage rates will be used to verify compliance with the SO2 and HAPs emission limitations.

(4) The waste oil characteristics (i.e., ash and lead content) and usage rates will be used to verify compliance with the FESOP PM2.5 and HAP limitations.

(5) The shingle characteristics (i.e., lack of asbestos content) will be used to verify compliance with the FESOP HAP limitation.

(6) The liquid binder characteristics (i.e., evaporation temperature) and usage rate, in the production of cold-mix cutback asphalt, will be used to verify compliance with the FESOP VOC emission limitation.

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

Emission Unit	Control Device	Pollutant	Timeframe for Testing	Frequency of Testing
Dryer/mixer	Baghouse	PM2.5	No later than five (5) years from the last valid test(1)	Once every five (5) years
Dryer/mixer	N/A	SO2	Within 180 days after initial use of Blast Furnace slag(2)	One time test
RAP Crusher	N/A	PM/PM10/PM2.5 *(opacity/fugitives)*	Within 180 days after initial use(3)	Once every five (5) years

(1) Required for compliance with 40 CFR 60, Subpart I, and 326 IAC 2-8 (FESOP). The last valid dryer/mixer stack test for PM and PM10 occurred on June 15, 2007. The source was in compliance at that time.

Based on a comparison with recent test results from similar sources, IDEM has determined that the source would have complied with their PM2.5 limit at that time. Therefore, PM2.5 testing shall be conducted in concurrence with the next PM/PM10 test.

(2) Testing shall only be performed if the company has not previously performed SO2 testing while using Blast Furnace slag in the aggregate mix at one of their other Indiana facilities.

(3) Required for compliance with 40 CFR 60, Subpart OOO, and 326 IAC 2-8 (FESOP), for fugitive emissions from affected facilities without water sprays. Testing shall only be performed if the company has not previously performed testing at one of their other Indiana facilities. Additionally, affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in §60.674(b) and §60.676(b) are exempt from the 5-year repeat testing requirement.

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

(1) The existing drum mixer dryer/burner, baghouse stack exhaust, and the material processing and handling, screening, conveying, and material transfer points continue to have applicable compliance monitoring conditions as specified below:

Emission Unit & Control Device	Parameter	Frequency	Range	Excursions and Exceedances
Dryer/mixer baghouse stack exhaust	Visible Emissions	Once per day	normal/ abnormal	Response Steps
	Pressure Drop	Once per day	1.0 to 8.0 inches	Response Steps
	Bags in baghouse	As needed	normal/ abnormal	Response Steps
Conveyors, screens, and material transfer points	Visible Emissions	Once per day	normal/ abnormal	Response Steps

These monitoring conditions continue to be necessary because the baghouse used in conjunction with the hot-mix dryer/mixer must operate properly to ensure compliance with 40 CFR 60, Subpart I, and 326 IAC 2-8 (FESOP), and the limits that render 326 IAC 2-2 (PSD), and 326 IAC 2-7 (Part 70 Permit Program) not applicable.

(2) The RAP crushing and associated material conveying, screening, and transfer points have applicable compliance monitoring conditions as follows:

Parameter	Frequency	Range	Excursions and Exceedances
Visible Emissions	Once per day	normal/abnormal	Response Steps

These monitoring conditions are necessary to ensure compliance with 40 CFR 60, Subpart I, 326 IAC 60, Subpart OOO, 326 IAC 2-8 (FESOP), 326 IAC 6-5, and the limits that render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70 Permit Program) not applicable.

The existing compliance 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 FESOP Renewal F145-23091-03230, issued on February 1, 2007.

Proposed Changes

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

(1) Section A.1 - General Information, page 5 of 50 of the permit, has been revised to update the source description to include the additional operational flexibility incorporated by this revision (i.e., cold-mix asphalt production, RAP crushing, use of slag and shingles in the aggregate mix, and not grinding shingles).

(2) Sections A.2 - Emission Units and Pollution Control Equipment Summary and D.1 - Emission Unit Operation Conditions for the stationary drum mix asphalt pavement production plant, pages 5 and 24 of 50 of the permit, have been revised to update the drum mix dryer description to include the use of slag and shingles in the aggregate mix.

(3) Sections A.2 - Emission Units and Pollution Control Equipment Summary and D.1 - Emission Unit Operation Conditions for the stationary drum mix asphalt pavement production plant, pages 5 and 24 of 50 of the permit, have been revised to include a description of the new diesel fuel-fired portable crusher and screener.

(4) Section D.1.3 - Fuel Usage, renamed "FESOP Limits: SO2, NOx, and HAPs", pages 25 and 26 of 50 of the permit, has been revised to incorporate the new blast furnace and steel slag sulfur content (%) limitations, the new pound per ton blast furnace and steel slag emission limitations, the new blast furnace slag usage limitation (ton/yr), and the new asphalt shingle usage limitation.

(5) Section D.1 - Particulate Emission Limits, page 27 of 50 of the permit, has been added to the permit to incorporate the requirements of 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) for the new diesel fuel-fired portable RAP crusher and screener, as new condition D.1.5 - Particulate Emission Limits.

(6) Section D.1 - Testing Requirements, page 28 of 50 of the permit, has been revised to incorporate the new blast furnace slag SO2 testing and the new diesel fuel-fired portable RAP crusher and screener testing requirements.

(7) Section D.1 - Sulfur Dioxide (SO2) Emissions and Sulfur Content, pages 28 and 29 of 50 of the permit, has been revised to incorporate new compliance determination requirements for the blast furnace and steel slag limits contained in Section D.1 - FESOP Limits: SO2 and HAPs.

(8) Section D.1 - Multiple Fuel and Slag Usage Limitations, pages 29 and 30 of 50 of the permit, has been added to assist the Permittee in determining compliance with the FESOP SO2, Fuel and Slag limits contained in condition D.1.3 - FESOP Limits: SO2 and HAPs.

(9) Section D.1 - Shingle Asbestos Content, pages 30 of 50 of the permit, has been added to assist the Permittee in determining compliance with the FESOP Asphalt Shingle Usage Limitation contained in condition D.1.3(d).

(10) Section D.1 - Parametric Monitoring, page 31 of 50 of the permit, has been revised to allow the Permittee the option of using the manufacturer's recommendations for the calibration frequency.

(11) Section D.1 - Record Keeping Requirements, pages 31 through 33 of 50 of the permit, has been revised to include recordkeeping requirements for the blast furnace slag, steel slag, and recycled shingles.

(12) Section D.1 - Reporting Requirements, page 33 of 50 of the permit, has been revised to include reporting requirements for the blast furnace slag.

(13) Section D.2 - Emissions Unit Operation Conditions for the cold-mix asphalt storage piles, pages 34 through 36 of 50 of the permit, has been revised to reflect the manufacturing operations and inclusion of additional cold-mix emulsions to the process. See pages 16 through 18 of 98 of this TSD for more details on what new limits and requirements are included.

(14) A NEW Section E.2 - NSPS Requirements, pages 39 and 40 of 50 of the permit, has been added to incorporate by reference the requirements of 40 CFR 60, Subpart OOO, New Source Performance Standards (NSPS) Requirements for Nonmetallic Mineral Processing Plants. Also, a copy of the rule is included as Attachment C to the permit.

(15) The FESOP Reporting Forms located at the back of the permit have been updated to reflect the revised limits, as described on pages 13 through 18 of 98 of this TSD, the addition of the blast furnace and steel slag, and the change to determining compliance using an equation.

(b) Upon further review, IDEM, OAQ has decided to make the following changes to the permit:

(1) For clarity, IDEM has changed references to the general conditions: *"in accordance with Section B*", "*in accordance with Section C*", or other similar language, to “Section *C ... contains the Permit tee’s obligations with regard to the records required by this condition*."

(2) IDEM has decided that the phrases "*no later than*" and "*not later than*" are clearer than "*within*" in relation to the end of a timeline. Therefore, all timeline have been switched to "*no later than*" or "*not later than*" except for the timelines in Section B - Emergency Provisions because the underlying rule states for these conditions to specify "*within*."

(3) Section B -Duty to Provide Information has been revised.

(4) IDEM has determined that rather than having a Certification condition and various references throughout the permit as to whether a particular report, notice, or correspondence needs to include a certification, the specific conditions that require an affirmation of truth and completeness shall state so. The certification condition has been removed. All statements to whether a certification, pursuant to the former Section B - Certification, is needed or not have been removed.

Section B - Credible Evidence and Section C - Asbestos Abatement Projects still require certification as the underlying rules also require certifications.

(5) To clarify that Section B - Certification only states what a certification must be, IDEM has revised the condition.

(6) IDEM has decided to clarify what rule requirements a certification needs to meet. IDEM has decide to remove the last sentence dealing with the need for certification from the forms because the Conditions requiring the forms already address this issue.

(7) IDEM has added a new paragraph (b) to handle a future situation where the Permittee adds units that need preventive maintenance plans developed. IDEM has decided to clarify other aspects of Section B - Preventive Maintenance Plan.

(8) IDEM is revising Section B - Emergency Provisions to delete paragraph (h). 326 IAC 2-8-4(3)(C) (ii) allows that deviations reported under an independent requirement do not have to be included in the Quarterly Deviation and Compliance Monitoring Report.

(9) IDEM 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.

(10) IDEM has added 326 IAC 5-1-1 to the exception clause of Section C - Opacity, since 326 IAC 5-1-1 does list exceptions.

(11) IDEM has revised Section C - Incineration to more closely reflect the two underlying rules.

(12) IDEM has changed the title, order, and wording of the condition formerly entitled Section C - Fugitive Dust Emissions to match 326 IAC 6.8-10-3.

(13) IDEM has added the Southeastern Regional Office to Section B - Emergency Provisions, as applicable.

(14) IDEM has removed the first paragraph of Section C - Performance Testing due to the fact that specific testing conditions elsewhere in the permit will specify the timeline and procedures.

(15) IDEM has removed Section C - Monitoring Methods. The conditions that require the monitoring or testing, if required, state what methods shall be used.

(16) IDEM has revised Section C - Compliance Monitoring. The reference to recordkeeping has been removed due to the fact that other conditions already address recordkeeping. The voice of the condition has been change to clearly indicate that it is the Permittee that must follow the requirements of the condition.

(17) IDEM has revised Section C - Response to Excursions or Exceedances. The introduction sentence has been added to clarify that it is only when an excursion or exceedance is detected that the requirements of this condition need to be followed. The word "excess" was added to the last sentence of paragraph (a) because the Permittee only has to minimize excess emissions. The middle of paragraph (b) has been deleted, as it was duplicative of paragraph (a). The phrase "or are returning" was added to subparagraph (b)(2) as this is an acceptable response assuming the operation or emission unit does return to normal or its usual manner of operation. The phrase "within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable" was replaced with "normal or usual manner of operation" because the first phrase is just a limited list of the second phrase. The recordkeeping required by paragraph (e) was changed to require only records of the response because the previously listed items are required to be recorded elsewhere in the permit.

(18) DEM has revised Section C - Actions Related to Noncompliance Demonstrated by a Stack Test. The requirements to take response steps and minimize excess emissions have been removed because Section C - Response to Excursions or Exceedances already requires response steps related to exceedances and excess emissions minimization. The start of the timelines was switched from "the receipt of the test results" to "the date of the test." There was confusion if the "receipt" was by IDEM, the Permittee, or someone else. Since the start of the timelines has been moved up, the length of the timelines was increased. The new timelines require action within a comparable timeline; and the new timelines still ensure that the Permittee will return to compliance within a reasonable timeframe.

(19) Paragraph (b) of Section C - Emission Statement has been removed. It was duplicative of the requirement in Section C - General Reporting Requirements.

(20) The voice of paragraph (b) of Section C - General Record Keeping Requirements has been change to clearly indicate that it is the Permittee that must follow the requirements of the paragraph.

(21) IDEM, OAQ has decided that having a separate condition for the reporting of deviations is unnecessary. Therefore, IDEM has removed Section B - Deviation from Permit Requirements and Conditions and added the requirements of that condition to Section C - General Reporting Requirements. Paragraph (d) of Section C - General Reporting Requirements has been removed because IDEM already states the timeline and certification needs of each report in the condition requiring the report.

(22) IDEM has decided to simplify the referencing in Section C - Compliance with 40 CFR 82 and 326 IAC 22-1.

(23) Sections A.2 - Emission Units and Pollution Control Equipment Summary and D.1 - Emissions Unit Operation Conditions for the stationary drum mix asphalt pavement production plant, pages 5 and 24 of 50 of the permit, have been revised to include the material storage piles, material processing, material handling, material screening, and the material conveying, specifically associated with the drum mix asphalt plant, since these activities are also regulated by 40 CFR 60, Subpart I. These units were correspondingly removed from Section A.3 - Insignificant Activities.

(24) Sections A.2 - Emission Units and Pollution Control Equipment Summary and D.1 - Emissions Unit Operation Conditions for the stationary drum mix asphalt pavement production plant, pages 5 and 34 of 50 of the permit, have been revised for clarity, separating the cold-mix asphalt storage piles from the hot-mix asphalt plant description, since cold-mix asphalt is not regulated under 40 CFR 60, Subpart I. Additionally, the description has been updated to include a reference to the cold-mix manufacturing operation.

(25) Existing condition D.1.1 - Particulate Matter (PM), renamed "PSD Minor Limit", page 25 of 50 of the permit, has been revised to reflect the increased pound per ton emission limit for PM and to include the hot-mix asphalt production limitation.

(26) Existing condition D.1.2 - Particulate Matter Less Than 10 Microns (PM-10), renamed "FESOP Limits: PM10, PM2.5, SO2, VOC, and CO", page 25 of 50 of the permit, has been revised to reflect the increased pound per ton emission limits for PM10 and to include the hot-mix asphalt production limitation. Additionally, new FESOP limits for PM2.5, SO2, and VOC have been added, and the FESOP limit for CO has been moved from existing condition D.1.5 - Carbon Monoxide (CO).

(27) Existing condition D.1.3 - Sulfur Dioxide (SO2), renumbered as condition D.1.6, page 27 of 50 of the permit, has been revised for clarity.

(28) Existing condition D.1.4 - Fuel Usage, renamed "FESOP Limits: SO2, NOx, and HAPs", pages 25 through 27 of 50 of the permit, has been revised to remove the fuel equivalency

requirements and has been restructured for clarity. Additionally, the new ash and lead content limits were added, and the existing fuel usage limits have been revised to reflect the decrease needed to allow for the addition of slag to the permit. Finally, the existing SO2 and NOx emission limits for the dryer/mixer burner were converted from lb/kgal to tons/yr.

(29) A new condition D.1.4 - Particulate Emission Limits, page 27 of 50 of the permit, has been added to the permit to incorporate the requirements of 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units) for the hot oil heater.

(30) Existing condition D.1.5 - Carbon Monoxide (CO), has been consolidated into condition D.1.2 - FESOP Limits: PM10, PM2.5, NOx, VOC, and CO, pages 25 through 27 of 50 of the permit.

(31) Existing condition D.1.7 - Testing Requirements, renumbered as condition D.1.9, page 28 of 50 of the permit, has been revised to clarify the existing PM and PM10 testing requirements and to incorporate the new PM2.5 testing requirement.

(32) A new condition D.1.11 - Hydrogen Chloride (HCl) Emissions and Ash, Chlorine, and Lead Content, page 29 of 50 of the permit, has been added to incorporate new compliance determination requirements for the new waste oil chlorine content (%), ash content (%), and lead content (%) limits contained in Section D.1.3 - FESOP Limits: SO2, NOx, and HAPs.

(33) Existing condition D.1.11 - Parametric Monitoring, renumbered as condition D.1.15, page 31 of 50 of the permit, has been revised to include the replacement of an instrument as an acceptable action.

(34) Existing condition D.1.13 - Record Keeping Requirements, renumbered as condition D.1.17 pages 31 through 33 of 50 of the permit, has been revised to reflect the consolidation of several existing conditions, as described above. Additionally, the word "status" has been added, since the Permittee has the obligation to document the compliance status.

(35) Existing condition D.1.14 - Reporting Requirements, renumbered as condition D.1.18 page 33 of 50 of the permit, has been revised to reflect the consolidation of several existing conditions, as described above. Additionally, the word "status" has been added, since the Permittee has the obligation to document the compliance status.

(36) Existing conditions D.1.15 - General Provisions Relating to New Source Performance Standards (NSPS) for Hot Mix Asphalt Facilities and D.1.16 - New Source Performance Standards (NSPS) for Hot Mix Facilities, have been moved to a NEW Condition E.1 - NSPS Requirements, pages 37 and 38 of 50 of the permit, to incorporate by reference the requirements of 40 CFR 60, Subpart I. Also, a copy of the rule is included as Attachment B to the permit.

(37) The phrase "of this permit" has been added to the paragraph of the Quarterly Deviation and Compliance Monitoring Report to match the underlying rule.

The Permit has been revised as follows, with deleted language shown as ~~strikeouts~~ and new language **bolded**. Permit conditions have been renumbered as needed to accommodate the above-listed revisions.

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

The Permittee owns and operates a stationary **drum mix** asphalt pavement production plant~~.~~**, and cold-mix asphalt production operation. Recycled asphalt pavement (RAP) is crushed on-site, and blast furnace slag, electric arc furnace steel mill slag, and/or asbestos-free recycled shingles are processed in the aggregate mix. This source does not grind any shingles on-site.**

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~~Mailing Address: 5950 S. Belmont Avenue, Indianapolis, Indiana 46217~~

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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) aggregate counter flow drum mix ~~dryer~~**asphalt plant**, identified as emission unit No. 2, installed in 2004, with a maximum **throughput** capacity of 400 tons **of raw material** per hour, **processing blast furnace slag, steel slag, and recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) in the aggregate mix,** equipped with one (1) natural gas fired aggregate dryer burner with a maximum rated capacity of 135.0 million (MM) British thermal units (Btu) per hour, using No. 2 distillate fuel oil and re-refined waste oil as back-up fuels and one (1) baghouse system for air pollution control, exhausting at one (1) stack, identified as S-1;

(b) one (1) drag slat conveyor, three (3) feed conveyors, and one (1) screen, each installed in 1976;

(c) one (1) cold feed system consisting of six (6) compartments with a total aggregate holding capacity of 150 tons;

(d) two (2) hot mix asphalt cement storage silos, each with a maximum storage capacity of 100 tons;

(e) one (1) Recycled Asphalt Pavement (RAP) feed bin with a holding capacity of 18 tons;

(f) Aggregate storage piles, with a total maximum storage capacity of 32,500 tons, including:

(1) Blast furnace and/or electric arc steel slag storage piles, with a maximum anticipated pile size of 0.40 acres.

(2) Recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) storage piles, with a maximum anticipated pile size of 0.40 acres.

(g) RAP storage piles, with a maximum storage capacity of 30,000 tons;

~~(c) cold-mix (stockpile mix) asphalt storage piles, installed in 1976.~~

~~Under New Source Performance Standards (NSPS) Subpart I, the hot mix asphalt plant is considered an affected facility because the construction of the plant commenced after June 11, 1973.~~ **Under 40 CFR 60, Subpart I, New Source Performance Standards for Hot-mix Asphalt Plants, this source is considered an effected facility.**

(h) One (1) 173 horsepower, diesel fuel-fired portable RAP crusher and screener for processing reclaimed asphalt pavement (RAP), identified as EU002, approved for construction in 2012, with a maximum throughput capacity of 200 tons of RAP per hour; and

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

(**i**~~c~~) **cold-mix (stockpile mix) asphalt manufacturing operations and storage piles, installed in 1976.**

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

This stationary source also includes the following insignificant activities:

(a) one (1) No. 2 distillate fuel oil fired asphalt storage tank heater, identified as emission unit No. 11, rated at 0.45 MMBtu per hour, using natural gas as back-up fuel, and exhausting at two (2) stacks, identified as S-2A, and S 2B;

(b) one (1) No. 2 distillate fuel oil fired hot oil heater, identified as emission unit No. 13, rated at 1.25 MMBtu per hour, using natural gas as back-up fuel, exhausting at one (1) stack, identified as S-4; **[326 IAC 6-2]**

~~(c) one (1) cold feed system consisting of six (6) compartments with a total aggregate holding capacity of 150 tons;~~

~~(d) two (2) hot mix asphalt cement storage silos, each with a maximum storage capacity of 100 tons;~~

~~(e) one (1) Recycled Asphalt Pavement (RAP) feed bin with a holding capacity of 18 tons;~~

(**c**~~f~~) three (3) liquid asphalt storage tanks, identified as Tank 10, Tank 12 and Tank 16, with respective maximum storage capacities of 30,000, 22,000 and 30,000 gallons, with emissions exhausting through Stacks V-3, V-5 and V-8, respectively;

(**d**~~g~~) two (2) re-refined waste oil storage tanks, identified as Tanks 14 and 15, with respective maximum storage capacities of 20,000 and 10,000 gallons, and each exhausting at one (1) stack, identified as V-6 and V-7, respectively;

~~(h) aggregate storage piles, with a maximum storage capacity of 30,300 tons;~~

~~(i) RAP storage piles, with a maximum storage capacity of 30,000 tons;~~

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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, F145-23091-03230, 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]~~

~~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. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.~~

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

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

~~(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.~~

~~(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.~~

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

~~B.10 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 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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

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

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

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

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

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

~~(b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper~~

~~maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

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

~~B.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, 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 Section), or~~
~~Telephone Number: 317-233-0178 (ask for Compliance Section)~~
~~Facsimile Number: 317-233-6865~~

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

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

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

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

~~(A) A description of the emergency;~~

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

~~(C) Corrective actions taken.~~

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

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

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

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

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

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

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

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

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

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

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

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

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

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

~~(a) All terms and conditions of permits established prior to F145-23091-03230 and issued pursuant to permitting programs approved into the state implementation plan have been either:~~

~~(1) incorporated as originally stated,~~

~~(2) revised, or~~

~~(3) deleted.~~

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

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

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

~~B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]~~

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

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

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

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

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

~~B.16 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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

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

~~(1) That this permit contains a material mistake.~~

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

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

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

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

~~B.17 Permit Renewal [326 IAC 2-8-3(h)]~~

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

~~Request for renewal shall be submitted to:~~

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

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

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

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

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

~~B.18 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]~~

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

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

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

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

~~(c) The Permittee may implement 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.19 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]~~

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

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

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

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

~~(4) The Permittee notifies the:~~

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

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

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

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

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

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

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

~~B.20 Source Modification Requirement [326 IAC 2-8-11.1]~~

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

~~B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC13-30-3-1]~~

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

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

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

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

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

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

~~B.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]~~

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

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

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

~~The application which shall be submitted by the Permittee does require the certification by 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.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]~~

~~(a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.~~

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

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

~~B.24 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]~~

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

~~******~~

SECTION 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, F145-23091-03230, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

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

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

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

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

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

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

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

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

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

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

The Permittee shall implement the PMPs.

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

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

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

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

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

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

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

The Permittee shall implement the PMPs.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(A) A description of the emergency;

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

(C) Corrective actions taken.

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

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

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

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

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

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

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

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

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

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

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

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

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

(a) All terms and conditions of permits established prior to F145-23091-03230 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

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

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

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

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

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

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

(1) That this permit contains a material mistake.

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

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

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

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

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

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

Request for renewal shall be submitted to:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(4) The Permittee notifies the:
Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

****

~~SECTION C SOURCE OPERATION CONDITIONS~~

~~Entire Source~~

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

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

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

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

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

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

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

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

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

~~(b) The potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period. This limitation shall make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.~~

~~(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 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:~~

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

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

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

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

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

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

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

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

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

~~Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on June 17, 1996. The plan is included as Attachment A.~~

~~C.8 Stack Height [326 IAC 1-7]~~

~~The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.~~

~~C.9 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]~~

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

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

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

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

~~(A) Asbestos removal or demolition start date;~~

~~(B) Removal or demolition contractor; or~~

~~(C) Waste disposal site.~~

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

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

~~All required notifications shall be submitted to:~~

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

~~The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by 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 Accredited Asbestos Inspector~~

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

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

~~C.10 Performance Testing [326 IAC 3-6]~~

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

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

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

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

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

~~(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.~~

~~Compliance Requirements [326 IAC 2-1.1-11]~~

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

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

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

~~C.12 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]~~

~~Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, 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 Branch, Office of Air Quality~~
~~100 North Senate Avenue~~
~~MC 61-53 IGCN 1003~~
~~Indianapolis, Indiana 46204-2251~~

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

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

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

~~C.13 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]~~

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

~~C.14 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]~~

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

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

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

~~C.15 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 prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on February 15, 2002.~~

~~(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.16 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.17 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]~~

~~(a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.~~

~~(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:~~

~~(1) initial inspection and evaluation;~~

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

~~(3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.~~

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

~~(1) monitoring results;~~

~~(2) review of operation and maintenance procedures and records;~~

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

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

~~(e) The Permittee shall maintain the following records:~~

~~(1) monitoring data;~~

~~(2) monitor performance data, if applicable; and~~

~~(3) corrective actions taken.~~

~~C.18 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4] [326 IAC 2-8-5]~~

~~(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.~~

~~(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.~~

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

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

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

~~C.19 General Record Keeping Requirements[326 IAC 2-8-4(3)] [326 IAC 2-8-5]~~

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

~~(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.~~

~~C.20 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]~~

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

~~(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:~~

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

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

~~(d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

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

~~Stratospheric Ozone Protection~~

~~C.21 Compliance with 40 CFR 82 and 326 IAC 22-1~~

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

~~(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.~~

~~(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.~~

~~(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.~~

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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 one hundred (100) pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed five hundred fifty-one thousandths (0.551) pounds per hour.

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

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

(a) Pursuant to 326 IAC 2-8:

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

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

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

(4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO2 equivalent emissions (CO_2e) per twelve (12) consecutive month period.

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

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

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

C.3 Opacity [326 IAC 5-1]

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

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

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

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

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

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

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

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

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

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

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

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

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are

mandatory. All demolition projects require notification whether or not asbestos is present.

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

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

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

(A) Asbestos removal or demolitions start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

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

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

All required notifications shall be submitted to:

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

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

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

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

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

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

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

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

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

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

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

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in

accordance with good air pollution control practices for minimizing excess emissions.

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

(1) initial inspection and evaluation;

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

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

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

(1) monitoring results;

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

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

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

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

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

(a) Records of all required monitoring data, reports, and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

****

~~SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS~~

~~Emissions Unit Description:~~

~~(a) one (1) aggregate counter flow drum mix dryer, identified as emission unit No. 2, installed in 2004, with a maximum capacity of 400 tons per hour, equipped with one (1) natural gas fired aggregate dryer burner with a maximum rated capacity of 135.0 million (MM) British thermal units (Btu) per hour, using No. 2 distillate fuel oil and re-refined waste oil as back-up fuels and one (1) baghouse system for air pollution control, exhausting at one (1) stack, identified as S-1;~~

~~(b) one (1) drag slat conveyor, three (3) feed conveyors, and one (1) screen, each installed in 1976;~~

~~Under New Source Performance Standards (NSPS) Subpart I, the hot mix asphalt plant is considered an affected facility because the construction of the plant commenced after June 11, 1973.~~

~~(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]~~

~~The PM emissions from the aggregate mixing and drying operation shall not exceed 0.029 pound of PM per ton of asphalt mix. This limits PM emissions from the entire source to less than 250 tons per year. Compliance with the above requirements shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable.~~

~~D.1.2 Particulate Matter Less Than 10 Microns (PM-10) [326 IAC 2-8-4] [326 IAC 2-2]~~

~~Pursuant to 326 IAC 2-8-4, PM-10 emissions from the aggregate mixing and drying operation shall not exceed 0.036 pound of PM-10 per ton of asphalt mix. This limits PM-10 emissions from the entire source to less than 100 tons per year. Compliance with this limit will render Part 70 rules (326 IAC 2-7) and 326 IAC 2-2 (PSD), not applicable.~~

~~D.1.3 Sulfur Dioxide (SO2) [326 IAC 7-1.1-1][326 IAC 7-2-1]~~

~~(a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 135.0 million Btu per hour burner for the aggregate dryer shall be limited to 0.5 pounds per million Btu heat input or a sulfur content of less than or equal to 0.5% when using distillate oil.~~

~~(b) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 135.0 million Btu per hour burner for the aggregate dryer shall be limited to 1.6 pounds per million Btu heat input or a sulfur content of less than or equal to 1.3 percent when using re-refined waste oil. The source has accepted a sulfur content limit of 0.75 percent for re-refined waste oil.~~

~~(c) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.~~

~~D.1.4 Fuel Usage [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-3]~~

~~Pursuant to 326 IAC 2-8-4(1), the following limits shall apply:~~

~~(a) the sulfur content of the re-refined waste oil used in the 135.0 MMBtu per hour burner for the aggregate dryer shall not exceed 0.75 percent.~~

~~(b) the usage of re-refined waste oil with a sulfur content of 0.75% and re-refined waste oil equivalents in the 135.0 MMBtu per hour burner for the aggregate dryer shall be limited to 1,269,841 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. Therefore, SO_2 emissions are limited below 100 tons per year.~~

~~(c) the usage of natural gas and natural gas equivalents in the 135 MMBtu per hour aggregate dryer burner shall be limited to 936.2 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. Therefore, NOx emissions are limited to less than 100 tons per year.~~

~~(d) For purposes of determining compliance, the following shall apply:~~

~~(1) every MMCF of natural gas burned shall be equivalent to 5.4 gallons of re-refined waste oil based on SO_2 emissions, such that the total gallons of re-refined waste oil and re-refined waste oil equivalent input does not exceed the limit specified;~~

~~(2) every 1,000 gallons of No. 2 distillate fuel oil burned shall be equivalent to 712 gallons of re-refined waste oil based on SO_2 emissions, such that the total gallons of re-refined waste oil and re-refined waste oil equivalent input does not exceed the limit specified.~~

~~(3) every 1,000 gallons of No. 2 distillate fuel oil burned shall be equivalent to 0.126 MMCF of natural gas burned based on NOx emissions, such that the total MMCF of natural gas and natural gas equivalent input does not exceed the limit specified; and~~

~~(4) every 1,000 gallons of re-refined waste oil burned shall be equivalent to 0.1 MMCF of natural gas burned based on NOx emissions, such that the total MMCF of natural gas and natural gas equivalent input does not exceed the limit specified.~~

~~Therefore, the requirements of 326 IAC 2-7 do not apply. Compliance with the re-refined waste oil usage limit shall also render 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) not applicable.~~

~~D.1.5 Carbon Monoxide (CO) [326 IAC 2-8-4]~~

~~Pursuant to 326 IAC 2-8-4, the following shall apply:~~

~~(a) CO emissions from the drum mix dryer shall not exceed 0.13 pound of CO per ton of hot mix asphalt produced.~~

~~(b) The amount of hot mix asphalt produced in the drum mix dryer shall not exceed 1,306,817 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

~~This limits total source-wide CO emissions to 90 tons per year. Compliance with this limit will satisfy 326 IAC 2-8-4 and render the requirements of Part 70 (326 IAC 2-7) not applicable.~~

~~D.1.6 Preventive Maintenance Plan [326 IAC 2-8-4(9)]~~

~~A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.~~

~~Compliance Determination Requirements~~

~~D.1.7 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]~~

~~Within ninety (90) days of the issuance of this FESOP renewal, in order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform PM and PM-10 testing on the aggregate dryer/burner utilizing methods per 40 CFR Part 60 Appendix A, Method 5 for PM and methods as approved by the Commissioner for PM-10. PM-10 includes filterable and condensible PM-10. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.~~

~~D.1.8 Sulfur Dioxide Emissions and Sulfur Content~~

~~Compliance shall be determined utilizing one of the following options.~~

~~(a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million Btu heat input when burning No. 2 distillate fuel oil and one and six-tenths (1.6) pounds per million But heat input when burning re-refined waste oil by:~~

~~(1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;~~

~~(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.~~

~~(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and~~

~~(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.~~

~~(b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 135.0 MMBtu per hour burner for the aggregate dryer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.~~

~~A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.~~

~~D.1.9 Particulate Control~~

~~(a) The baghouse for particulate control shall be in operation and control emissions from the aggregate dryer/burner at all times that the aggregate dryer/burner 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.~~

~~Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]~~

~~D.1.10 Visible Emissions Notations~~

~~(a) Visible emission notations of the aggregate dryer/burner baghouse stack exhaust, the conveyors and transfer points shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.~~

~~(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.~~

~~(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.~~

~~(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.~~

~~(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.~~

~~D.1.11 Parametric Monitoring~~

~~The Permittee shall record the pressure drop across the baghouse used in conjunction with the aggregate dryer/burner, at least once per day when the aggregate dryer/burner is in operation when venting to the atmosphere. When for any aggregate dryer/burner, the pressure drop across the baghouse is outside the normal range of 1.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.~~

~~The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.~~

~~D.1.12 Broken or Failed Bag Detection~~

~~(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).~~

~~(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).~~

~~Bag failure can be indicated by a significant drop in the baghouse=s pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.~~

~~Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]~~

~~D.1.13 Record Keeping Requirements~~

~~(a) To document compliance with Conditions D.1.3 and D.1.4, 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 SO2 and NOx emission limits established in Conditions D.1.3 and D.1.4.~~

~~(1) Calendar dates covered in the compliance determination period;~~

~~(2) Actual re-refined waste oil and re-refined waste oil equivalent usage per month since last compliance determination period and equivalent SO2 emissions;~~

~~(3) Actual natural gas and natural gas equivalent usage per month since last compliance determination period and equivalent NOx emissions;~~

~~(4) 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. The natural gas fired boiler certification does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1); and~~

~~If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:~~

~~(5) Fuel supplier certifications;~~

~~(6) The name of the fuel supplier; and~~

~~(7) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.~~

~~(b) To document compliance with Condition D.1.5, the Permittee shall maintain monthly records of the hot mix asphalt produced in the drum mix dryer.~~

~~(c) To document compliance with Condition D.1.10, the Permittee shall maintain records of visible emission notations of the aggregate dryer/burner baghouse stack exhaust.~~

~~(d) To document compliance with Condition D.1.11, the Permittee shall maintain daily records of the pressure drop during normal operation when venting to the atmosphere.~~

~~(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.~~

~~D.1.14 Reporting Requirements~~

~~A quarterly summary of the information to document compliance with Conditions D.1.4 and D.1.5 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report~~

~~submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

~~New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]~~

~~D.1.15 General Provisions Relating to New Source Performance Standards (NSPS) for Hot Mix Asphalt Facilities [326 IAC 12-1][40 CFR Part 60, Subpart A] [40 CFR Part 60, Subpart I]~~

~~The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facility described in this section except when otherwise specified in 40 CFR Part 60, Subpart I.~~

~~D.1.16 New Source Performance Standards (NSPS) for Hot Mix Facilities [40 CFR Part 60, Subpart I]~~

~~Pursuant to 40 CFR Part 60, Subpart I, the Permittee shall comply with the provisions of 40 CFR 60, Subpart I specified as follows:~~

~~§ 60.90 Applicability and designation of affected facility.~~

~~(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.~~

~~(b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.~~

~~§ 60.91 Definitions.~~

~~As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.~~

~~(a) Hot mix asphalt facility means any facility, as described in §60.90, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.~~

~~§ 60.92 Standard for particulate matter.~~

~~(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:~~

~~(1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).~~

~~(2) Exhibit 20 percent opacity, or greater.~~

~~§ 60.93 Test methods and procedures.~~

~~(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).~~

~~(b) The owner or operator shall determine compliance with the particulate matter standards in §60.92 as follows:~~

~~(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).~~

~~(2) Method 9 and the procedures in §60.11 shall be used to determine opacity.~~

******

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Hot-mix Asphalt Plant, and RAP Crusher & Screener.

(a) one (1) aggregate counter flow drum mix asphalt plant, identified as emission unit No. 2, installed in 2004, with a maximum throughput capacity of 400 tons of raw material per hour, processing blast furnace slag, steel slag, and recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) in the aggregate mix, equipped with one (1) natural gas fired aggregate dryer burner with a maximum rated capacity of 135.0 million (MM) British thermal units (Btu) per hour, using No. 2 distillate fuel oil and re-refined waste oil as back-up fuels and one (1) baghouse system for air pollution control, exhausting at one (1) stack, identified as S-1;

(b) one (1) drag slat conveyor, three (3) feed conveyors, and one (1) screen, each installed in 1976;

(c) one (1) cold feed system consisting of six (6) compartments with a total aggregate holding capacity of 150 tons;

(d) two (2) hot mix asphalt cement storage silos, each with a maximum storage capacity of 100 tons;

(e) one (1) Recycled Asphalt Pavement (RAP) feed bin with a holding capacity of 18 tons;

(f) Aggregate storage piles, with a total maximum storage capacity of 32,500 tons, including:

(1) Blast furnace and/or electric arc steel slag storage piles, with a maximum anticipated pile size of 0.40 acres.

(2) Recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) storage piles, with a maximum anticipated pile size of 0.40 acres.

(g) RAP storage piles, with a maximum storage capacity of 30,000 tons;

Under 40 CFR 60, Subpart I, New Source Performance Standards for Hot-mix Asphalt Plants, this source is considered an effected facility.

(h) One (1) 173 horsepower, diesel fuel-fired portable RAP crusher and screener for processing reclaimed asphalt pavement (RAP), identified as EU002, approved for construction in 2012, with a maximum throughput capacity of 200 tons of RAP per hour; and

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, this is considered an affected facility.

Insignificant Activities: Boilers

(b) one (1) No. 2 distillate fuel oil fired hot oil heater, identified as emission unit No. 13, rated at 1.25 MMBtu per hour, using natural gas as back-up fuel, exhausting at one (1) stack, identified as S-4; [326 IAC 6-2]

(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 PSD Minor Limit [326 IAC 2-2]]

In order to render 326 IAC 2-2 not applicable;

(a) The amount of asphalt processed shall not exceed 1,306,817 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The PM emissions from the dryer/mixer shall not exceed 0.247 pounds per ton of asphalt processed.

Compliance with these limitations, combined with the limited potential to emit from other emission units at this source, shall limit the source-wide total potential to emit PM to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (PSD) not applicable.

D.1.2 FESOP Limits: PM10, PM2.5, SO2, VOC, and CO [326 IAC 2-8-4][326 IAC 2-2] [326 IAC 8-1-6]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

(a) The amount of asphalt processed shall not exceed 1,306,817 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The PM10 emissions from the dryer/mixer shall not exceed 0.109 pounds per ton of asphalt processed.

(c) The PM2.5 emissions from the dryer/mixer shall not exceed 0.133 pounds of PM2.5 per ton of asphalt produced.

(d) The SO2 emissions from the dryer/mixer shall not exceed 0.058 pounds per ton of asphalt processed.

(e) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.

(f) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, SO2, VOC, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, SO2, VOC, and CO to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), 326

IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-1.1-5 (Nonattainment New Source Review) not applicable.

Additionally, compliance with the limit in condition D.1.2(e) shall limit the VOC emissions from the dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

D.1.3 FESOP Limits: SO2, NOx, 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 326 IAC 2-2 and 326 IAC 2-4.1 not applicable, the Permittee shall comply with the following:

(a) Fuel and Slag Specifications

(1) The sulfur content of the No. 2 distillate fuel oil shall not exceed 0.50% by weight.

(2) The sulfur content of the waste oil shall not exceed 0.75% by weight.

(3) The waste oil combusted in the dryer burner shall not contain more than 1.02% ash, 0.20% chlorine, and 0.010% lead.

(4) The HCl emissions shall not exceed 13.2 pounds of HCl per 1,000 gallons of waste oil burned.

(5) The sulfur content of the Blast Furnace slag shall not exceed 1.50% by weight.

(6) The SO2 emissions from the dryer/mixer shall not exceed 0.740 pounds per ton of Blast Furnace slag processed in the aggregate mix.

(7) The sulfur content of the Steel slag shall not exceed 0.66% by weight.

(8) The SO2 emissions from the dryer/mixer shall not exceed 0.0014 pounds per ton of Steel slag processed in the aggregate mix.

(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 shall be limited as follows:

(1) Natural gas usage shall not exceed 785 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.

(2) No. 2 fuel oil usage shall not exceed 2,117,904 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;

(3) Waste oil usage shall not exceed 1,363,911 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month; and

(4) The Blast Furnace slag usage shall not exceed 50,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Note: The source is only permitted to burn the above-mentioned fuels.

(c) Multiple Fuel and Slag Usage Limitation:
When combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, emissions from the dryer/mixer shall be limited as follows:

(1) SO_2 emissions from the dryer/mixer shall not exceed 93.69 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(2) NOx emissions from the dryer/mixer shall not exceed 74.55 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) Asphalt Shingle Usage Limitation
Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)) not applicable, the Permittee shall not grind recycled asphalt shingles on-site and shall only use certified asbestos-free recycled shingles, post consumer waste and/or factory seconds, as an additive in its aggregate mix.

Compliance with these limits, combined with the potential to emit SO2, NOx, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO2 and NOx to less than 100 tons per twelve (12) consecutive month period, each, any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

D.1.4 Particulate Emission Limits [326 IAC 6-2]

Pursuant to 326 IAC 6-2-4, the particulate emissions from the hot oil heater shall not exceed six tenths (0.6) pounds of particulate matter per MMBtu heat input.

D.1.5 Particulate Emission Limits [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the existing portable recycled asphalt pavement (RAP) system shall not exceed 58.51 pounds per hour when operating at a process weight rate of 200 tons (or 400,000 pounds) per hour.

The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ **where E = rate of emission in pounds per hour; and**
P = process weight rate in tons per hour

D.1.6 Sulfur Dioxide (SO2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

(a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), the Permittee shall comply with the following:

(1) The sulfur dioxide (SO2) emissions from the dryer/mixer burner shall not exceed five tenths (0.5) pounds per MMBtu when using distillate oil.

(2) The sulfur dioxide (SO2) emissions from the dryer/mixer burner shall not exceed one and six tenths (1.6) pounds per MMBtu heat input when using residual oil.

Note: No. 2 fuel oil is considered distillate oil, and waste oil is considered residual oil.

(b) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.1.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and any corresponding control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.8 Particulate Control

(a) In order to comply with Conditions D.1.1(b), D.1.2(b), and D.1.2(c), the baghouse for particulate control shall be in operation and control emissions from the dryer/mixer at all times when the dryer/mixer is in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.9 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

(a) 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 most recent valid compliance demonstration, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable particulate matter.

(b) In order to demonstrate compliance with Condition D.1.3(a)(6), when using Blast Furnace slag, the Permittee shall perform SO2 testing for the aggregate dryer within one hundred eighty (180) days of initial use of Blast Furnace slag in the aggregate mix, utilizing methods as approved by the Commissioner.

Testing shall only be performed if the company has not previously performed SO2 testing while using Blast Furnace slag in the aggregate mix at one of their other Indiana facilities. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.10 Sulfur Dioxide (SO_2) Emissions and Sulfur Content

Fuel Oil

(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. Pursuant to 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements), compliance shall be demonstrated on a thirty (30) day calendar-month average.

(1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or

(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 135 MMBtu/hr 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 in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

Blast Furnace Slag

(b) Compliance with the blast furnace slag limitation established in Condition D.1.3(a)(5) shall be determined utilizing one of the following options. Pursuant to 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements), compliance shall be demonstrated on a thirty (30) day calendar-month average.

(1) Maintaining all records of vendor analyses or certifications of blast furnace slag delivered; or

(2) Analyzing a sample of each blast furnace slag delivery, if no vendor analyses or certifications are available, to determine the sulfur content of the blast furnace slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 135 MMBtu/hr 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 in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

Steel Slag

(c) Compliance with the steel slag limitations established in Condition D.1.3(a)(7) shall be determined utilizing one of the following options. Pursuant to 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements), compliance shall be demonstrated on a thirty (30) day calendar-month average.

(1) Maintaining all records of vendor analyses or certifications of steel slag delivered; or

(2) Analyzing a sample of the steel slag delivery if no vendor analyses or certifications are available, at least once per quarter, to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 135 MMBtu/hr 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 in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

D.1.11 Hydrogen Chloride (HCl) Emissions and Ash, Chlorine, and Lead Content

The Permittee shall demonstrate compliance with the waste oil ash, chlorine, and lead content limits established in Condition D.1.3(a)(3), by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.

D.1.12 Multiple Fuel and Slag Usage

In order to comply with the Condition D.1.3(c) when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, the Permittee shall limit fuel usage according to the following formulas:

(a) Sulfur Dioxide (SO2) Emission Calculation

$$S = \frac{G(E_G) + O(E_O) + W(E_W) + B(E_B) + T(E_T)}{2{,}000 \text{ lbs/ton}}$$

where:

S = tons of sulfur dioxide emissions for a 12-month consecutive period
G = million cubic feet of natural gas used in the last 12 months
O = gallons of No. 2 fuel oil used in the last 12 months
W = gallons of Waste oil used in the last 12 months
B = tons of Blast Furnace slag used in the last 12 months
T = tons of Steel slag used in the last 12 months

Emission Factors

E_G = 0.60 lb/million cubic feet of natural gas

E_O = 71.0 lb/1000 gallons of No. 2 fuel oil
E_W = 110.3 lb/1000 gallons of Waste oil
E_B = 0.74 lb/ton of Blast Furnace slag used
E_T = 0.0014 lb/ton of Steel slag used

(b) Nitrogen Oxides (NOx) Emission Calculation

$$N = \frac{G(E_G) + O(E_O) + W(E_W)}{2{,}000 \text{ lbs/ton}}$$

where:
N = tons of nitrogen oxide emissions for a 12-month consecutive period;
G = million cubic feet of natural gas used in the last 12 months;
O = gallons of No. 2 fuel oil used in the last 12 months;
W = gallons of reclaimed/waste oil used in the last 12 months.

Emission Factors
E_G = 190 lb/million cubic feet of natural gas;
E_O = 24.0 lb/1000 gallons of No. 2 fuel oil;
E_W = 19.0 lb/1000 gallons of reclaimed/waste oil.

D.1.13 Shingle Asbestos Content

Pursuant to 326 IAC 2-8-4, compliance with Condition D.1.3(d) shall be determined utilizing one of the following options:

(1) Providing shingle supplier certification that the factory second shingles do not contain asbestos; or

(2) Analyzing a sample of the recycled asphalt shingles (factory seconds and/or post consumer waste, only) delivery to determine the asbestos content of the recycled asphalt shingles, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified above shall not be refuted by evidence of compliance pursuant to the other method.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

D.1.14 Visible Emissions Notations

(a) Visible emission notations from the conveyors, screens, material transfer points, crusher, and dryer/mixer stack (S-1) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) **A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.**

(e) **If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.**

D.1.15 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 one (1.0) and eight (8.0) inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months, or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer specifications, if used.

D.1.16 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) **For a single compartment baghouses controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).**

(b) **For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).**

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.17 Record Keeping Requirements

(a) To document the compliance status with Conditions D.1.1(a), and D.1.2(a), the Permittee shall keep monthly records of the amount of asphalt processed through the dryer/mixer.

(b) To document the compliance status with Conditions D.1.3 and D.1.6, the Permittee shall maintain records in accordance with (1) through (10) below. Records maintained for (1) through (10) below shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3 and D.1.6.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide, emission rates for each fuel used at the source since the last compliance determination period;

(3) Actual waste oil usage, ash, chlorine, and lead content, and equivalent hydrogen chloride emission rate for waste oil used at the source since the last compliance determination period;

(4) 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

(5) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

(i) Fuel supplier certifications;

(ii) The name of the fuel supplier; and

(iii) A statement from the fuel supplier that certifies the sulfur content of the No. 2 and waste oil, and the ash, chlorine, and lead content of waste oil.

(6) Actual blast furnace and steel slag usage, sulfur content and equivalent sulfur dioxide emission rates for all blast furnace and steel slag used at the source since the last compliance determination period;

(7) A certification, signed by the owner or operator, that the records of the blast furnace and steel slag supplier certifications represent all of the blast furnace and steel slag used during the period; and

(8) If the slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

(i) Blast furnace and steel slag supplier certifications;

(ii) The name of the blast furnace and steel slag supplier; and

(iii) A statement from the blast furnace and steel slag supplier that certifies the sulfur content of the blast furnace and steel slag.

(9) A certification, signed by the owner or operator, that the records of the shingle supplier certifications represent all of the shingles used during the period; and

(10) If the shingle supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

(A) Shingle supplier certifications;

(B) The name of the shingle supplier(s); and

(C) A statement from the shingle supplier(s) that certifies the asbestos content of the shingles from their company.

(d) To document the compliance status with Condition D.1.14, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack (S-1) exhaust once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

(e) To document the compliance status with Condition D.1.15, the Permittee shall maintain records once per day of the pressure drop during normal operation. The Permittee shall include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).

(f) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.18 Reporting Requirements

A quarterly summary of the information to document compliance status with Conditions D.1.1(a), D.1.2(a), and D.1.3, shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The 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 D.2 FACILITY CONDITIONS~~

~~Facility Description [326 IAC 2-7-5(15)]:~~

~~(c) cold-mix (stockpile mix) asphalt storage piles, installed in 1976.~~

~~(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)~~

~~Emission Limitations and Standards [326 IAC 2-8-4(1)]~~

~~D.2.1 Volatile Organic Compound (VOC) [326 IAC 2-8-4] [326 IAC 2-3]~~

~~Gelled asphalt with VOC solvent liquid binder used in the production of cold mix asphalt shall not exceed 480 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month. This is equivalent to limiting the VOC~~

~~emitted from solvent use to 12.0 tons per twelve (12) consecutive month period, based on the following definition:~~

~~Other asphalt with solvent binder, containing a maximum 25.9% of the liquid binder of VOC solvent and 2.5% by weight of the VOC solvent evaporating.~~

~~Therefore, the requirements of 326 IAC 2-7 and 326 IAC 2-3 (Emission Offset), do not apply.~~

~~Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]~~

~~D.2.2 Record Keeping Requirements~~

~~To document compliance with Condition D.2.1, the Permittee shall maintain records in accordance with (a) through (d) below. Records maintained for (a) through (d) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limit established in Condition D.2.1.~~

~~(a) Calendar dates covered in the compliance determination period;~~

~~(b) Gelled asphalt binder usage per month since the last compliance determination period;~~

~~(c) VOC solvent content by weight of the gelled asphalt binder used each month; and~~

~~(d) Amount of VOC solvent used in the production of cold mix asphalt, and the amount of VOC emitted each month.~~

~~All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.~~

~~D.2.3 Reporting Requirements~~

~~A quarterly summary of the information to document compliance with Condition D.2.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

~~******~~

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description [326 IAC 2-8-4(10)]: Cold-mix Asphalt

(d) Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles.

(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.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]

Pursuant to 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving), the use of cutback asphalt or asphalt emulsion shall not contain more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:

(a) Penetrating prime coating

(b) Stockpile storage

(c) Application during the months of November, December, January, February, and March.

D.2.2 Volatile Organic Compounds (VOC) [326 IAC 2-8-4] [326 IAC 2-2]

(a) Pursuant to 326 IAC 2-8-4, the VOC emissions from the sum of the liquid binders (asphalt emulsions) shall not exceed 53.44 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) <u>Cut back asphalt rapid cure</u>, containing a maximum of 25.3% of the liquid binder by weight of VOC solvent and 95.0% by weight of VOC solvent evaporating.

(2) <u>Cut back asphalt medium cure</u>, containing a maximum of 28.6% of the liquid binder by weight of VOC solvent and 70.0% by weight of VOC solvent evaporating.

(3) <u>Cut back asphalt slow cure</u>, containing a maximum of 20.0% of the liquid binder by weight of VOC solvent and 25.0% by weight of VOC solvent evaporating.

(4) <u>Emulsified asphalt with solvent</u>, containing a maximum of 15.0% of liquid binder by weight of VOC solvent and 46.4% by weight of the VOC solvent in the liquid blend evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be seven percent (7%) or less of the total emulsion by volume.

(5) <u>Other asphalt with solvent binder</u>, containing a maximum 25.9% of the liquid binder of VOC solvent and 2.5% by weight of the VOC solvent evaporating.

(c) When using only one type of liquid binder (asphalt emulsion) per twelve (12) consecutive month period, the usage of liquid binder shall be limited as follows:

(1) The amount of VOC solvent used in rapid cure cutback asphalt shall not exceed 56.25 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 76.34 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 213.76 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(4) The amount of VOC solvent used in emulsified asphalt shall not exceed 115.71 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(5) The amount of VOC solvent used in all other asphalt shall not exceed 2,137.64 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) When using more than one liquid binder (asphalt emulsion) per twelve (12) consecutive month period, VOC emissions shall be limited as follows:

(1) The VOC solvent allotments in (1) through (5) above shall be adjusted when more than one type of binder is used per twelve (12) consecutive month period with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment factor listed in the table that follows.

$$\text{VOC emitted (tons/yr)} = \frac{\text{VOC solvent used for each binder (tons/yr)}}{\text{Adjustment factor}}$$

Type of binder	adjustment factor
cutback asphalt rapid cure	1.053
cutback asphalt medium cure	1.429
cutback asphalt slow cure	4.000
emulsified asphalt	2.155
other asphalt	40.0

Compliance with these limits, combined with the VOC emissions from all other emission units at this source, will limit source-wide VOC emissions to less than one hundred (100) tons per twelve (12) consecutive month period, and render 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-2 (PSD)) not applicable.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.2.3 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.2(c)(1) through (5), the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.2.2(c)(1) through (5).

(1) Calendar dates covered in the compliance determination period;

(2) Cutback asphalt binder usage in the production of cold mix asphalt since the last compliance determination period;

(3) VOC solvent content by weight of the cutback asphalt binder used in the production of cold mix asphalt since the last compliance determination period; and

(4) Amount of VOC solvent used in the production of cold mix asphalt, and the amount of VOC emitted since the last compliance determination period.

Records may include: delivery tickets, manufacturer's data, material safety data sheets (MSDS), and other documents necessary to verify the type and amount used. Test results of ASTM tests for asphalt cutback and asphalt emulsion may be used to document volatilization.

(b) Section C - General Record Keeping Requirements 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 the compliance status with Condition D.2.2 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 NSPS REQUIREMENTS

Emissions Unit Description [326 IAC 2-8-4(10)]: Hot-mix Asphalt Plant

(a) one (1) aggregate counter flow drum mix asphalt plant, identified as emission unit No. 2, installed in 2004, with a maximum throughput capacity of 400 tons of raw material per hour, processing blast furnace slag, steel slag, and recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) in the aggregate mix, equipped with one (1) natural gas fired aggregate dryer burner with a maximum rated capacity of 135.0 million (MM) British thermal units (Btu) per hour, using No. 2 distillate fuel oil and re-refined waste oil as back-up fuels and one (1) baghouse system for air pollution control, exhausting at one (1) stack, identified as S-1;

(b) one (1) drag slat conveyor, three (3) feed conveyors, and one (1) screen, each installed in 1976;

(c) one (1) cold feed system consisting of six (6) compartments with a total aggregate holding capacity of 150 tons;

(d) two (2) hot mix asphalt cement storage silos, each with a maximum storage capacity of 100 tons;

(e) one (1) Recycled Asphalt Pavement (RAP) feed bin with a holding capacity of 18 tons;

(f) Aggregate storage piles, with a total maximum storage capacity of 32,500 tons, including:

(1) Blast furnace and/or electric arc steel slag storage piles, with a maximum anticipated pile size of 0.40 acres.

(2) Recycled asphalt shingles (certified asbestos-free, factory seconds and/or post consumer waste, only) storage piles, with a maximum anticipated pile size of 0.40 acres.

(g) RAP storage piles, with a maximum storage capacity of 30,000 tons;

Under 40 CFR 60, Subpart I, New Source Performance Standards for Hot-mix Asphalt Plants, this source is considered an effected facility.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

E.1.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart I.

(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.1.2 New Source Performance Standards (NSPS) for Hot-mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart I (included as Attachment B of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart I:

(a) 40 CFR 60.90

(b) 40 CFR 60.91

(c) 40 CFR 60.92

(d) 40 CFR 60.93

E.1.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

The Permittee shall perform the stack testing required under NSPS 40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner to document compliance with Condition E.1.2. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

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SECTION E.2 NSPS REQUIREMENTS

Emissions Unit Description: Recycled Asphalt Pavement (RAP) Crushing & Screening Operation

(g) One (1) 173 horsepower, diesel fuel-fired portable RAP crusher and screener for processing reclaimed asphalt pavement (RAP), identified as EU002, approved for construction in 2012, with a maximum throughput capacity of 200 tons of RAP per hour; and

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, this is considered an affected facility.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

E.2.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart OOO.

(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.2.2 NSPS Subpart OOO Requirements - Standards of Performance for Nonmetallic Mineral Processing Plants [40 CFR Part 60, Subpart OOO] [326 IAC 12-1]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart OOO (included as Attachment C of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart OOO:

(1) 40 CFR 60.670(a), (d), (e), and (f)
(2) 40 CFR 60.671
(3) 40 CFR 60.672(b), (d), and (e)
(4) 40 CFR 60.673
(5) 40 CFR 60.674(b)
(6) 40 CFR 60.675(a), (c)(1)(i), (ii), (iii), (c)(3), (d), (e), (g), and (i)
(7) 40 CFR 60.676(a), (b)(1), (f), (h), (i), (j), and (k)
(8) Table 1 and Table 3

E.2.3 Testing Requirements [40 CFR Part 60, Subpart OOO] [326 IAC 12-1] [326 IAC 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition E.2.2, the Permittee shall perform testing for fugitive emissions from affected facilities without water sprays, as required under NSPS 40 CFR 60, Subpart OOO, not later than five (5) years from the most recent valid compliance demonstration, utilizing methods approved by the

Commissioner. Testing shall only be performed if the company has not previously performed testing for the same crusher at one of their other Indiana facilities. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

Note: Pursuant to §60.674(b)(1), affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in §60.674(b) and §60.676(b) are exempt from this 5-year repeat testing requirement.

~~******~~

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION

Source Name: Milestone Contractors,L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
~~Mailing Address: 5950 S. Belmont Street, Indianapolis, Indiana 46217~~

~~******~~

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT

Source Name: Milestone Contractors,L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
~~Mailing Address: 5950 S. Belmont Street, Indianapolis, Indiana 46217~~

~~******~~

~~INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT~~
~~OFFICE OF AIR QUALITY~~
~~COMPLIANCE AND ENFORCEMENT BRANCH~~

~~FESOP Quarterly Report~~

~~Source Name: Milestone Contractors,L.P.~~
~~Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176~~
~~Mailing Address: 5950 S. Belmont Avenue, Indianapolis, Indiana 46217~~
~~FESOP No.: F145-23091-03230~~
~~Facility: 135.0 MMBtu per hour aggregate dryer burner~~
~~Parameter: Re-refined waste oil and equivalent usage limit to limit SO2 emissions~~
~~Limit: the usage of re-refined waste oil with a sulfur content of 0.75% and re-refined waste oil equivalents in the 135.0 MMBtu per hour burner for the aggregate dryer shall be limited to 1,269,841 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the fuel equivalency ratios in condition D.1.4(d) shall be used.~~

~~YEAR:~~ _____

~~Month~~	~~Column 1~~	~~Column 2~~	~~Column 1 + Column 2~~
	~~Re-refined waste oil and equivalent usages this month (gallons)~~	~~Re-refined waste oil and equivalent usages previous 11 months (gallons)~~	~~Re-refined waste oil and equivalent usages 12 month total (gallons)~~
~~Month 1~~			
~~Month 2~~			
~~Month 3~~			

~~☐ No deviation occurred in this quarter.~~

~~☐ Deviation/s occurred in this quarter.~~
~~Deviation has been reported on:_____~~

~~Submitted by: _____~~
~~Title / Position: _____~~
~~Signature: _____~~
~~Date: _____~~
~~Phone: _____~~

~~Attach a signed certification to complete this report.~~

~~******~~

~~INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT~~
~~OFFICE OF AIR QUALITY~~
~~COMPLIANCE AND ENFORCEMENT BRANCH~~

~~FESOP Quarterly Report~~

~~Source Name: Milestone Contractors,L.P.~~
~~Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176~~
~~Mailing Address: 5950 S. Belmont Avenue, Indianapolis, Indiana 46217~~
~~FESOP No.: F145-23091-03230~~
~~Facility: 135.0 MMBtu per hour aggregate dryer burner~~
~~Parameter: Natural gas and equivalent usage limit to limit NOx emissions~~
~~Limit: the usage of natural gas and natural gas equivalents in the 135 MMBtu per hour aggregate dryer burner shall be limited to 936.2 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the fuel equivalency ratios in condition D.1.4(d) shall be used.~~

~~YEAR:_____~~

~~Month~~	~~Column 1~~	~~Column 2~~	~~Column 1 + Column 2~~
	~~Natural gas and equivalent usages this month (MMCF)~~	~~Natural gas and equivalent usages previous 11 months (MMCF)~~	~~12 month total Natural gas and equivalent usages (MMCF)~~
~~Month 1~~			
~~Month 2~~			
~~Month 3~~			

~~☐ No deviation occurred in this quarter.~~
~~☐ Deviation/s occurred in this quarter.~~
~~Deviation has been reported on:_____~~

~~Submitted by: _____~~
~~Title / Position: _____~~
~~Signature: _____~~
~~Date: _____~~
~~Phone: _____~~

~~Attach a signed certification to complete this report.~~

~~******~~

~~INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT~~
~~OFFICE OF AIR QUALITY~~
~~COMPLIANCE AND ENFORCEMENT BRANCH~~

~~FESOP Quarterly Report~~

~~Source Name: Milestone Contractors,L.P.~~
~~Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176~~
~~Mailing Address: 5950 S. Belmont Avenue, Indianapolis, Indiana 46217~~
~~FESOP No.: F145-23091-03230~~
~~Facility: Cold Mix Asphalt Storage~~
~~Parameter: VOC~~
~~Limit: Gelled asphalt with VOC solvent liquid binder used in the production of cold mix asphalt shall not exceed 480 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month. This is equivalent to limiting the VOC emitted from solvent use to 12.0 tons per twelve (12) consecutive month period.~~

~~YEAR:~~ _____

~~Month~~	~~Column 1~~	~~Column 2~~	~~Column 1 + Column 2~~
	~~Total VOC Solvent Usage this month (tons)~~	~~Total VOC Solvent Usage previous 11 months (tons)~~	~~12 month Total VOC Solvent Usage (tons)~~
~~Month 1~~			
~~Month 2~~			
~~Month 3~~			

~~☐ No deviation occurred in this quarter.~~

~~☐ Deviation/s occurred in this quarter.~~
~~Deviation has been reported on:~~

~~Submitted by:~~ _____
~~Title / Position:~~ _____
~~Signature:~~ _____
~~Date:~~ _____
~~Phone:~~ _____

~~Attach a signed certification to complete this report.~~

~~******~~

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report **Page 1 of 3**

Source Name: **Milestone Contractors, L.P.**
Source Address: **201 East Rampart Street, Shelbyville, Indiana 46176**
FESOP No.: **F145-23091-03230**

Facility: **Dryer/Mixer and Diesel Fuel-Fired Portable RAP Crusher & Screener**

Parameter: **Fuel & Slag Usage / SO2 & NOx emissions**

Emission Limits: ***Sulfur dioxide (SO_2)*** **emissions shall not exceed 93.69 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12(a).**

Nitrogen oxides (NOx) **emissions shall not exceed 74.55 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12(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)
Natural gas (million cubic feet (MMCF))	785
No. 2 Distillate Fuel Oil (gallons)	2,117,904
Waste Oil (gallons)	1,363,911
Blast Furnace Slag (tons)	50,000

Facility: **Cold-mix Asphalt Production**

Parameter: **Binder Usage / VOC Emissions**

Emission Limits: ***Volatile Organic Compound (VOC)*** **emissions from the sum of the binders shall not exceed 53.44 tons per twelve (12) consecutive month period with compliance determined at the end of each month, using the equation found in Condition D.2.2(d).**

Binder Limits: **When using only one type of liquid binder (asphalt emulsion) per twelve (12) consecutive month period in the production of cold-mix asphalt, liquid binder (asphalt emulsion) usage shall not exceed the following:**

Type of Binder	Binder Usage Limit (per 12 consecutive month period)
Cutback Asphalt Rapid Cure	56.25
Cutback Asphalt Medium Cure	76.34
Cutback Asphalt Slow Cure	213.76
Emulsified Asphalt	115.71
Other Asphalt	2,137.64

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FESOP Quarterly Report - Fuel & Slag Usage / SO2 & NOx emissions

QUARTER: _____ YEAR: _____

Month	Fuel Types / 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)	Nitrogen Oxides (NOx) Emissions (tons per 12 months)
Month 1	Natural gas (MMCF)					
	No. 2 Fuel Oil (gallons)					
	Waste Fuel Oil (gallons)					
	Blast Furnace Slag					
	Steel Slag Usage (tons)					
Month 2	Natural gas (MMCF)					
	No. 2 Fuel Oil (gallons)					
	Waste Fuel Oil (gallons)					
	Blast Furnace Slag					
	Steel Slag Usage (tons)					
Month 3	Natural gas (MMCF)					
	No. 2 Fuel Oil (gallons)					
	Waste Fuel Oil (gallons)					
	Blast Furnace Slag					
	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 - Liquid Binder (Asphalt Emulsion) Usage / VOC Emissions

QUARTER: _____ **YEAR:** _____

Month	Binder/Emulsion Types (units)	Column 1 Usage This Month	Column 2 Usage Previous 11 Months	Column 1 + Column 2 Usage 12 Month Total	Equation VOC Emissions (tons per 12 months)
Month 1	Cutback asphalt rapid cure liquid binder (million cubic feet)				
	Cutback asphalt medium cure liquid binder (gallons)				
	Cutback asphalt slow cure liquid binder (gallons)				
	Emulsified asphalt with solvent liquid binder				
	Other asphalt with solvent liquid binder				
Month 2	Cutback asphalt rapid cure liquid binder (million cubic feet)				
	Cutback asphalt medium cure liquid binder (gallons)				
	Cutback asphalt slow cure liquid binder (gallons)				
	Emulsified asphalt with solvent liquid binder				
	Other asphalt with solvent liquid binder				
Month 3	Cutback asphalt rapid cure liquid binder (million cubic feet)				
	Cutback asphalt medium cure liquid binder (gallons)				
	Cutback asphalt slow cure liquid binder (gallons)				
	Emulsified asphalt with solvent liquid binder				
	Other asphalt with solvent liquid binder				

☐ **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:_____

VOC Emitted (tons/day) = $\frac{\text{VOC solvent used for each binder (tons/day)}}{\text{Adjustment factor}}$

Type of Binder	Adjustment Factor
Cutback Asphalt Rapid Cure	1.053
Cutback Asphalt Medium Cure	1.429
Cutback Asphalt Slow Cure	4.0
Emulsified Asphalt	2.155
Other Asphalt	40.0

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~~INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT~~
~~OFFICE OF AIR QUALITY~~
~~COMPLIANCE AND ENFORCEMENT BRANCH~~

~~FESOP Quarterly Report~~

~~Source Name:~~ ~~Milestone Contractors,L.P.~~
~~Source Address:~~ ~~201 East Rampart Street, Shelbyville, Indiana 46176~~
~~Mailing Address:~~ ~~5950 S. Belmont Avenue, Indianapolis, Indiana 46217~~
~~FESOP No.:~~ ~~F145-23091-03230~~
~~Facility:~~ ~~Drum Mix Dryer~~
~~Parameter:~~ ~~CO emissions~~
~~Limit:~~ ~~The amount of hot mix asphalt produced in the drum mix dryer shall not exceed 1,306,817 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~~
	~~Hot Mix Asphalt Produced This Month (tons)~~	~~Hot Mix Asphalt Produced Previous 11 Months (tons)~~	~~12 Month Total Hot Mix Asphalt Produced (tons)~~
~~Month 1~~			
~~Month 2~~			
~~Month 3~~			

~~☐ No deviation occurred in this quarter.~~

~~☐ Deviation/s occurred in this quarter.~~
~~Deviation has been reported on:~~

~~Submitted by:~~ _____
~~Title / Position:~~ _____
~~Signature:~~ _____
~~Date:~~ _____
~~Phone:~~ _____

~~Attach a signed certification to complete this report.~~

******

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: **Milestone Contractors, L.P.**
Source Address: **201 East Rampart Street, Shelbyville, Indiana 46176**
FESOP No.: **F145-23091-03230**
Facility: **Dryer/Mixer Burner**
Parameter: **Hot-mix Asphalt Production**

Limit: **The amount of hot-mix asphalt produced in the dryer/burner shall not exceed 1,306,817 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
	Hot-mix Asphalt Produced This Month (tons)	Hot-mix Asphalt Produced Previous 11 Months (tons)	12 Month Total Hot-mix Asphalt Produced (tons)
Month 1			
Month 2			
Month 3			

☐ **No deviation occurred in this quarter.**

☐ **Deviation/s occurred in this quarter.**
Deviation has been reported on:_____

Submitted by: _____
Title / Position:_____
Signature: _____
Date: _____
Phone: _____

******

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Milestone Contractors,L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
~~Mailing Address: 5950 S. Belmont Avenue, Indianapolis, Indiana 46217~~
FESOP No.: F145-23091-03230

Months: _____ **to** _____ **Year:** _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements **of this permit**, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked. "No deviations occurred this reporting period".

******

~~Attach a signed certification to complete this report.~~

******

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 November 4, 2011.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Revision No.: F145-31102-03230. The staff recommends to the Commissioner that this FESOP Significant Revision be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Ms. Hannah Desrosiers at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5374 or toll free at 1-800-451-6027 extension 4-5374.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.in.gov/idem

Appendix A.1: Unlimited Emissions Calculations
Entire Source - Drum Mix

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Asphalt Plant Maximum Capacity - Drum Mix

Maximum Hourly Asphalt Production =	400	ton/hr								
Maximum Annual Asphalt Production =	3,504,000	ton/yr								
Maximum Annual Blast Furnace Slag Usage =	1,471,680	ton/yr	1.50	% sulfur						
Maximum Annual Steel Slag Usage =	1,471,680	ton/yr	0.66	% sulfur						
Maximum Dryer Fuel Input Rate =	135.0	MMBtu/hr								
Natural Gas Usage =	1,183	MMCF/yr								
No. 2 Fuel Oil Usage =	8,447,143	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						
Butane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	8,447,143	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead
Diesel Fuel Oil Usage (crusher only) =	77,433	gal/yr.	0.50	% sulfur						
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production								
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production								
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production								
Unlimited SO2 Dryer/Mixer Emission Factor =	0.058	lb/ton of asphalt production								
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production								
Unlimited CO Dryer/Mixer Emission Factor =	0.130	lb/ton of asphalt production								
Unlimited Blast Furnace Slag SO2 Dryer/Mixer Emission Factor =	0.74	lb/ton of slag processed								
Unlimited Steel Slag SO2 Dryer/Mixer Emission Factor =	0.0014	lb/ton of slag processed								

Unlimited/Uncontrolled Emissions

	Unlimited/Uncontrolled Potential to Emit (tons/year)										
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants		
Process Description	**PM**	**PM10**	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**	**CO_2e**	**Total HAPs**	**Worst Case HAP**	
Ducted Emissions											
Dryer Fuel Combustion (worst case)	275.71	219.71	219.71	465.65	112.35	4.22	49.67	95,457.70	60.53	55.75	(hydrogen chloride)
Dryer/Mixer (Process)	49,056.00	11,388.00	2,628.00	101.62	96.36	56.06	227.76	58,257.50	18.68	5.43	(formaldehyde)
Dryer/Mixer Slag Processing (worst case)	0	0	0	544.52	0	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.11	0.18	0.18	3.78	1.06	0.04	0.63	1,202.06	0.017	0.013	(hexane)
Astec Crusher Fuel Combustion	1.64	1.64	1.64	1.54	23.39	1.91	5.04	872.98	0.021	0.006	(formaldehyde)
Worst Case Emissions*	**49,057.75**	**11,389.82**	**2,629.82**	**1,015.48**	**136.80**	**58.01**	**233.42**	**97,532.74**	**60.57**	**55.75**	(hydrogen chloride)
Fugitive Emissions											
Asphalt Load-Out, Silo Filling, On-Site Yard	1.94	1.94	1.94	0	0	30.01	5.05	0	0.50	0.16	(formaldehyde)
Material Storage Piles	1.02	0.36	0.36	0	0	0	0	0	0	0	
Material Processing and Handling	11.32	5.35	0.81	0	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	55.59	20.31	20.31	0	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	157.98	40.26	4.03	0	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	42,109.32	0	0	10,983.67	3,789.84	(xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0	0.00	0.00	(xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0	
Total Fugitive Emissions	**227.85**	**68.22**	**27.44**	**0**	**0**	**42,139.33**	**5.05**	**0**	**10,984.17**	**3,789.84**	(xylenes)
Totals Unlimited/Uncontrolled PTE	**49,285.60**	**11,458.04**	**2,657.26**	**1,015.48**	**136.80**	**42,197.35**	**238.47**	**97,532.74**	**11,044.74**	**3,789.84**	(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
Fuel component percentages provided by the source.

Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/h

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

Maximum Capacity

Maximum Hourly Asphalt Production =	400	ton/hr								
Maximum Annual Asphalt Production =	3,504,000	ton/yr								
Maximum Fuel Input Rate =	135	MMBtu/hr								
Natural Gas Usage =	1,183	MMCF/yr								
No. 2 Fuel Oil Usage =	8,447,143	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						
Butane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	8,447,143	gal/yr, and	0.75	% sulfur	1.02	% ash	0.200	% chlorine,	0.010	% lead

Unlimited/Uncontrolled Emissions

	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	7.0	3.22	0.5	0.6	65.3	1.12	8.45	0	0	0	0	275.71	**275.71**
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	52.02	4.49	13.94	0	0	0	0	219.71	**219.71**
SO2	0.6	71.0	0	0	0	0	110.3	0.35	299.87	0	0	0	0	465.65	**465.65**
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	112.35	101.37	0	0	0	0	80.25	**112.35**
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	3.25	0.84	0	0	0	0	4.22	**4.22**
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	49.6692	21.12	0	0	0	0	21.12	**49.67**
Hazardous Air Pollutant															
HCl							13.2							55.75	**55.75**
Antimony			5.25E-03	5.25E-03			negl			0	0			negl	**0**
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	1.2E-04	2.37E-03	0	0			4.65E-01	**0.46**
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	7.1E-06	1.77E-03	0	0			negl	**1.8E-03**
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	6.5E-04	1.77E-03	0	0			3.93E-02	**0.04**
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	8.3E-04	1.77E-03	0	0			8.45E-02	**0.08**
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	5.0E-05		0	0			8.87E-04	**8.9E-04**
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	3.0E-04	5.32E-03	0	0			2.3E+00	**2.32**
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	2.2E-04	3.55E-03	0	0			2.87E-01	**0.29**
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.5E-04	1.77E-03	0	0				**1.8E-03**
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	1.2E-03	1.77E-03	0	0			4.65E-02	**0.05**
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.4E-05	8.87E-03	0	0			negl	**8.9E-03**
1.1.1-Trichloroethane			2.36E-04	2.36E-04						0	0				**0**
1,3-Butadiene															**0**
Acetaldehyde															**0**
Acrolein															**0**
Benzene	2.1E-03		2.14E-04	2.14E-04				1.2E-03		0	0				**1.2E-03**
Bis(2-ethylhexyl)phthalate							2.2E-03							9.29E-03	**9.3E-03**
Dichlorobenzene	1.2E-03						8.0E-07	7.1E-04						3.38E-06	**7.1E-04**
Ethylbenzene			6.36E-05	6.36E-05						0	0				**0**
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				4.4E-02	2.58E-01	0	0				**0.26**
Hexane	1.8E+00							1.06							**1.06**
Phenol							2.4E-03							1.01E-02	**1.0E-02**
Toluene	3.4E-03		6.20E-03	6.20E-03				2.0E-03		0	0				**2.0E-03**
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0	0			1.65E-01	**0.17**
Polycyclic Organic Matter		3.30E-03							1.39E-02						**0.01**
Xylene			1.09E-04	1.09E-04						0	0				**0**
							Total HAPs	**1.12**	**0.30**	**0**	**0**	**0**	**0**	**59.18**	**60.53**

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0905 MMBtu]
Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0974 MMBtu]
Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
Sources of AP-42 Emission Factors for fuel combustion:
Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
No. 2, No.4, and No.6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5
*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (< 2.5 um)
SO2 = Sulfur Dioxide
NOx = Nitrous Oxides
VOC - Volatile Organic Compounds
CO = Carbon Monoxide
HAP = Hazardous Air Pollutant
HCl = Hydrogen Chloride
PAH = Polyaromatic Hydrocarbon

Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

Maximum Capacity

Maximum Hourly Asphalt Production =	400	ton/hr								
Maximum Annual Asphalt Production =	3,504,000	ton/yr								
Maximum Fuel Input Rate =	135	MMBtu/hr								
Natural Gas Usage =	1,183	MMCF/yr								
No. 2 Fuel Oil Usage =	8,447,143	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage =	0	gal/yr, and	0	% sulfur						
Refinery Blend, and 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						
Butane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	8,447,143	gal/yr, and	0.75	% sulfur	1.02	% ash	0.200	% chlorine,	0.010	% lead

Unlimited/Uncontrolled Emissions

	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
CO2e Fraction	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO2	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO_2	1
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH_4	21
N2O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N_2O	310

	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
CO2e Fraction	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)
CO2	71,051.70	95,036.31	0	0	0	0	93,020.59
CH4	1.47	3.86	0	0	0	0	3.77
N2O	1.30	1.10	0	0	0	0	0.76
Total	71,054.47	95,041.27	0	0	0	0	93,025.12
CO2e Equivalent Emissions (tons/yr)	71,485.93	95,457.70	0	0	0	0	93,335.46

CO2e for Worst Case Fuel* (tons/yr)
95,457.70

Methodology
Fuel Usage from TSD Appendix A.1, page 1 of 14.
Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]
Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2

No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

No.4 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Residual (No. 5 or No. 6) Fuel Oil: Emission Factor for CO2 from 40 CFR Part 98 Subpart C, Table C-1, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CH4 and N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Propane: Emission Factor for CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CO2 and N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Butane: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Waste Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]
Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations
PTE = Potential to Emit
CO2 = Carbon Dioxide
CH4 = Methane
N2O = Nitrogen Dioxide

Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production = 400 ton/hr
Maximum Annual Asphalt Production = 3,504,000 ton/yr

	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	**Worse Case PTE**
PM*	28	28	28	49,056.00	49,056.00	49,056.00	**49,056.00**
PM10*	6.5	6.5	6.5	11,388.00	11,388.00	11,388.00	**11,388.00**
PM2.5*	1.5	1.5	1.5	2,628.00	2,628.00	2,628.00	**2,628.00**
SO2**	0.0034	0.011	0.058	5.96	19.27	101.62	**101.62**
NOx**	0.026	0.055	0.055	45.55	96.36	96.36	**96.36**
VOC**	0.032	0.032	0.032	56.06	56.06	56.06	**56.06**
CO***	0.13	0.13	0.13	227.76	227.76	227.76	**227.76**
Hazardous Air Pollutant							
HCl			2.10E-04			3.68E-01	**0.37**
Antimony	1.80E-07	1.80E-07	1.80E-07	3.15E-04	3.15E-04	3.15E-04	**3.15E-04**
Arsenic	5.60E-07	5.60E-07	5.60E-07	9.81E-04	9.81E-04	9.81E-04	**9.81E-04**
Beryllium	negl	negl	negl	negl	negl	negl	**0**
Cadmium	4.10E-07	4.10E-07	4.10E-07	7.18E-04	7.18E-04	7.18E-04	**7.18E-04**
Chromium	5.50E-06	5.50E-06	5.50E-06	9.64E-03	9.64E-03	9.64E-03	**9.64E-03**
Cobalt	2.60E-08	2.60E-08	2.60E-08	4.56E-05	4.56E-05	4.56E-05	**4.56E-05**
Lead	6.20E-07	1.50E-05	1.50E-05	1.09E-03	2.63E-02	2.63E-02	**0.03**
Manganese	7.70E-06	7.70E-06	7.70E-06	1.35E-02	1.35E-02	1.35E-02	**0.01**
Mercury	2.40E-07	2.60E-06	2.60E-06	4.20E-04	4.56E-03	4.56E-03	**4.56E-03**
Nickel	6.30E-05	6.30E-05	6.30E-05	0.11	0.11	0.11	**0.11**
Selenium	3.50E-07	3.50E-07	3.50E-07	6.13E-04	6.13E-04	6.13E-04	**6.13E-04**
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.07	0.07	0.07	**0.07**
Acetaldehyde			1.30E-03			2.28	**2.28**
Acrolein			2.60E-05			4.56E-02	**0.05**
Benzene	3.90E-04	3.90E-04	3.90E-04	0.68	0.68	0.68	**0.68**
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.42	0.42	0.42	**0.42**
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	5.43	5.43	5.43	**5.43**
Hexane	9.20E-04	9.20E-04	9.20E-04	1.61	1.61	1.61	**1.61**
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.08	0.08	0.08	**0.08**
MEK			2.00E-05			0.04	**0.04**
Propionaldehyde			1.30E-04			0.23	**0.23**
Quinone			1.60E-04			0.28	**0.28**
Toluene	1.50E-04	2.90E-03	2.90E-03	0.26	5.08	5.08	**5.08**
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.33	1.54	1.54	**1.54**
Xylene	2.00E-04	2.00E-04	2.00E-04	0.35	0.35	0.35	**0.35**
						Total HAPs	**18.68**
						Worst Single HAP	**5.43 (formaldehyde)**

Methodology
Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-7, 11.1-8, 11.1-10, and 11.1-12
Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

* PM, PM10, and PM2.5 AP-42 emission factors based on drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. According to AP-42 fuel type does not significantly effect PM, PM10, and PM2.5 emissions.
** SO2, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.
*** CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

Abbreviations
VOC - Volatile Organic Compounds
HCl = Hydrogen Chloride
SO2 = Sulfur Dioxide
HAP = Hazardous Air Pollutant
PAH = Polyaromatic Hydrocarbon

Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production =	400	ton/hr
Maximum Annual Asphalt Production =	3,504,000	ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Greenhouse Gas Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			**CO2e for Worst Case Fuel (tons/yr)**
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO2	33	33	33	1	57,816.00	57,816.00	57,816.00	**58,257.50**
CH4	0.0120	0.0120	0.0120	21	21.02	21.02	21.02	
N2O				310	0	0	0	
				Total	57,837.02	57,837.02	57,837.02	
				CO2e Equivalent Emissions (tons/yr)	58,257.50	58,257.50	58,257.50	

Methodology
Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8
There are no emission factors for N20 available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N2O emission anticipated from this process.

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations
CO2 = Carbon Dioxide CH4 = Methane N2O = Nitrogen Dioxide PTE = Potential to Emit

Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer Slag Processing

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the unlimited emissions from the processing of slag in the aggregate drying/mixing

Maximum Annual Blast Furnace Slag Usage* =	1,471,680	ton/yr	1.50	% sulfur
Maximum Annual Steel Slag Usage* =	1,471,680	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	544.52
Steel Slag	0.0014	1.03

Methodology
* The maximum annual slag usage was provided by the source.

** Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from blast furnace slag containing 1.10% sulfur content. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

** Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.
Unlimited Potential to Emit SO2 from Slag (tons/yr) = [(Maximum Annual Slag Usage (ton/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]

Abbreviations
SO2 = Sulfur Dioxide

Appendix A.1: Unlimited Emissions Calculations
Hot Oil Heater
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate =	1.70	MMBtu/hr	*(includes one (1) @ 0.45 MMBtu/hr and one (1) @ 1.25 MMBtu/hr)*	
Natural Gas Usage =	15	MMCF/yr		
No. 2 Fuel Oil Usage =	106,371	gal/yr, and	0.50	% sulfur

Unlimited/Uncontrolled Emissions

	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	0.014	0.106	**0.11**
PM10/PM2.5	7.6	3.3	0.057	0.176	**0.18**
SO2	0.6	71.0	0.004	3.776	**3.78**
NOx	100	20.0	0.745	1.064	**1.06**
VOC	5.5	0.20	0.041	0.011	**0.04**
CO	84	5.0	0.625	0.266	**0.63**
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.5E-06	2.98E-05	**3.0E-05**
Beryllium	1.2E-05	4.2E-04	8.9E-08	2.23E-05	**2.2E-05**
Cadmium	1.1E-03	4.2E-04	8.2E-06	2.23E-05	**2.2E-05**
Chromium	1.4E-03	4.2E-04	1.0E-05	2.23E-05	**2.2E-05**
Cobalt	8.4E-05		6.3E-07		**6.3E-07**
Lead	5.0E-04	1.3E-03	3.7E-06	6.70E-05	**6.7E-05**
Manganese	3.8E-04	8.4E-04	2.8E-06	4.47E-05	**4.5E-05**
Mercury	2.6E-04	4.2E-04	1.9E-06	2.23E-05	**2.2E-05**
Nickel	2.1E-03	4.2E-04	1.6E-05	2.23E-05	**2.2E-05**
Selenium	2.4E-05	2.1E-03	1.8E-07	1.12E-04	**1.1E-04**
Benzene	2.1E-03		1.6E-05		**1.6E-05**
Dichlorobenzene	1.2E-03		8.9E-06		**8.9E-06**
Ethylbenzene					**0**
Formaldehyde	7.5E-02	6.10E-02	5.6E-04	3.24E-03	**3.2E-03**
Hexane	1.8E+00		0.01		**0.013**
Phenol					**0**
Toluene	3.4E-03		2.5E-05		**2.5E-05**
Total PAH Haps	negl		negl		**0**
Polycyclic Organic Matter		3.30E-03		1.76E-04	**1.8E-04**
		Total HAPs =	**1.4E-02**	**3.8E-03**	**0.017**

Methodology
Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
Sources of AP-42 Emission Factors for fuel combustion:
Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
SO2 = Sulfur Dioxide
NOx = Nitrous Oxides
VOC - Volatile Organic Compounds
CO = Carbon Monoxide
HAP = Hazardous Air Pollutant
HCl = Hydrogen Chloride
PAH = Polyaromatic Hydrocarbon

Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate =	1.70	MMBtu/hr	*(includes one (1) @ 0.45 MMBtu/hr and one (1) @ 1.25 MMBtu/hr)*
Natural Gas Usage =	14.89	MMCF/yr	
No. 2 Fuel Oil Usage =	106,371.43	gal/yr,	0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units) Natural Gas (lb/MMCF)	Emission Factor (units) No. 2 Fuel Oil (lb/kgal)	Greenhouse Global Warming Potentials (GWP)	Potential to Emit (tons/yr) Natural Gas (tons/yr)	Potential to Emit (tons/yr) No. 2 Fuel Oil (tons/yr)	**Worse Case CO2e Emissions (tons/yr)**
CO2	120,161.84	22,501.41	1	894.73	1,196.75	**1,202.06**
CH4	2.49	0.91	21	0.02	0.05	
N2O	2.2	0.26	310	0.02	0.01	
				894.76	1,196.82	

CO2e Equivalent Emissions (tons/yr)	900.19	1,202.06

Methodology

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2

No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Propane: Emission Factor for CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CO2 and N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Butane: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

CO2 = Carbon Dioxide
CH4 = Methane
N2O = Nitrogen Dioxide
PTE = Potential to Emit

Appendix A.1: Unlimited Emissions Calculations
Criteria Pollutant and Hazardous Air Pollutant (HAP) Emissions
from the Diesel Fuel-fired Portable Crusher
Reciprocating Internal Combustion Engines
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	173.0
Maximum Operating Hours per Year	8760
Unlimited Potential Throughput (hp-hr/yr)	1,515,480

Unlimited Potential Diesel Engine Oil Usage =	77,433	gal/yr
Sulfur Content =	0.50	% sulfur

	Criteria Pollutants						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	42.47	42.47	42.47	39.73	604.17	49.32	130.15
Potential Emission in tons/yr	1.64	1.64	1.64	1.54	23.39	1.91	5.04

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

	Hazardous Air Pollutants (HAPs)							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/kgal****	1.28E-01	5.60E-02	3.90E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Potential Emission in tons/yr	4.95E-03	2.17E-03	1.51E-03	2.07E-04	**0.006**	4.07E-03	4.91E-04	8.91E-04

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/MMBtu were converted to lb/kgal using the heating value of diesel fuel oil (137,000 Btu/gal) as taken from AP 42 Appendix A (09/85), page A-5.

Potential Emission of Total Combined HAPs (tons/yr)	**0.021**

Notes
Constant: 1 kilogallon (kgal) = 1000 gallons (gal)
The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.
Emission Factors for Diesel Fuel Oil combustion are from AP 42 - 3.3 Gasoline and Diesel Industrial Engines (Supplement B 10/96), Tables 3.3-1 and 3.3-2

Methodology
Potential Throughput (hp-hr/yr) = Output Horsepower Rating (hp) * Maximum Operating Hours per Year
Unlimited Potential Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]
Unlimited Potential to Emit (tons/yr) = [(Unlimited Potential Diesel Engine Oil Usage (gal/yr)) * Emission Factor (lb/kgal)) / (1000 gal/kgal * 2,000 lb/ton)]

Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from the
Diesel Fuel-fired Portable Crusher
Reciprocating Internal Combustion Engines
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	173.0	Diesel Engine Oil Usage[1] =	77,433	gal/yr
Maximum Operating Hours per Year	8760	Sulfur Content =	0.50	% sulfur
Potential Throughput (hp-hr/yr)	1,515,480			

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO_2	1
Methane	CH_4	21
Nitrous oxide	N_2O	310

	Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	CO2	CH4	N2O
Emission Factor in lb/kgal	22,472.92	0.91	0.18
Potential Emission in tons/yr	870.08	0.04	0.01
Summed Potential Emissions in tons/yr	870.12		
CO2e Equivalent Emissions (tons/yr)	**872.98**		

Notes
Constant: 1 kilogallon (kgal) = 1000 gallons (gal)
The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
Diesel Engine Oil: Emission Factor for CO2 from AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1, has been converted from lb/MMBtu to lb/kgal. Emission Factors for CH4 and N2O from 40 CFR Part 98 Subpart C, Table C-2, have been converted from kg/mmBtu to lb/kgal.
Emission Factor (EF) Conversion
for CO2: EF (lb/kgal) = [EF (lb/MMbtu) x average heating value of diesel (19,300 Btu/lb) x Conversion Factor (1/1,000,000 MMBtu/Btu) x density of diesel (7.1 lb/gal) x Conversion Factor (1,000 gal/kgal)
for CH4 & N2O: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Methodology
Potential Throughput (hp-hr/yr) = Output Horsepower Rating (hp) * Maximum Operating Hours per Year
Unlimited Potential Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]
Unlimited Potential to Emit (tons/yr) = [(Unlimited Potential Diesel Engine Oil Usage (gal/yr)) * Emission Factor (lb/kgal)) / (1000 gal/kgal * 2,000 lb/ton)]
Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O (ton/yr) x N2O GWP (310).

Appendix A.1: Unlimited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the unlimited/uncontrolled fugitive emissions from hot asphalt mix load-out, silo filling, and on-site yard for a drum mix hot mix asphalt plant

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	3,504,000	tons/yr

	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
Pollutant	**Load-Out**	**Silo Filling**	**On-Site Yard**	**Load-Out**	**Silo Filling**	**On-Site Yard**	**Total**
Total PM*	5.2E-04	5.9E-04	NA	0.91	1.03	NA	**1.94**
Organic PM	3.4E-04	2.5E-04	NA	0.60	0.445	NA	**1.04**
TOC	0.004	0.012	0.001	7.29	21.35	1.927	**30.6**
CO	0.001	0.001	3.5E-04	2.36	2.067	0.617	**5.05**

NA = Not Applicable (no AP-42 Emission Factor)

PM/HAPs	**0.042**	**0.050**	**0**	**0.093**
VOC/HAPs	**0.108**	**0.272**	**0.028**	**0.408**
non-VOC/HAPs	**5.6E-04**	**5.8E-05**	**1.5E-04**	**7.7E-04**
non-VOC/non-HAPs	**0.53**	**0.30**	**0.14**	**0.97**

Total VOCs	**6.85**	**21.35**	**1.8**	**30.0**
Total HAPs	**0.15**	**0.32**	**0.029**	**0.50**
			Worst Single HAP	**0.155 (formaldehyde)**

Methodology
The asphalt temperature and volatility factor were provided by the source.
Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16
Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14)::
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: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Organic Particulate-Based Compounds (Table 11.1-15)

					Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
Pollutant	**CASRN**	**Category**	**HAP Type**	**Source**	**Load-out and Onsite Yard (% by weight of Total Organic PM)**	**Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)**	**Load-out**	**Silo Filling**	**Onsite Yard**	**Total**
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	1.6E-03	2.1E-03	NA	3.6E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	1.7E-04	6.2E-05	NA	2.3E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	4.2E-04	5.8E-04	NA	1.0E-03
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	1.1E-04	2.5E-04	NA	3.6E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	4.5E-05	0	NA	4.5E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	1.3E-05	0	NA	1.3E-05
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	1.1E-05	0	NA	1.1E-05
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	1.4E-05	0	NA	1.4E-05
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	4.7E-05	4.2E-05	NA	8.9E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	6.2E-04	9.3E-04	NA	1.5E-03
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	2.2E-06	0	NA	2.2E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	3.0E-04		NA	3.0E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	4.6E-03	4.5E-03	NA	9.1E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	2.8E-06	0	NA	2.8E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	1.4E-02	2.3E-02	NA	0.038
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	7.5E-03	8.1E-03	NA	1.6E-02
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	1.3E-04	1.3E-04	NA	2.6E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	4.8E-03	8.0E-03	NA	1.3E-02
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	9.0E-04	2.0E-03	NA	2.9E-03
Total PAH HAPs							**0.035**	**0.050**	**NA**	**0.086**
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	7.0E-03	0	0	7.0E-03

NA = Not Applicable (no AP-42 Emission Factor)

Methodology

Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [Organic PM (tons/yr)]

Specieation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations

PM = Particulate Matter
HAP = Hazardous Air Pollutant
POM = Polycyclic Organic Matter

Appendix A.1: Unlimited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)

Organic Volatile-Based Compounds (Table 11.1-16)

					Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
Pollutant	**CASRN**	**Category**	**HAP Type**	**Source**	**Load-out and Onsite Yard (% by weight of TOC)**	**Silo Filling and Asphalt Storage Tank (% by weight of TOC)**	**Load-out**	**Silo Filling**	**Onsite Yard**	**Total**
VOC		VOC	---	TOC	94%	100%	**6.85**	**21.35**	**1.81**	**30.01**
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	4.7E-01	5.6E-02	1.3E-01	0.654
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	3.4E-03	1.2E-02	8.9E-04	0.016
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	5.2E-02	2.3E-01	1.4E-02	0.300
Total non-VOC/non-HAPS					7.30%	1.40%	**0.532**	**0.299**	**0.141**	**0.97**
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	3.8E-03	6.8E-03	1.0E-03	1.2E-02
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	7.0E-04	1.0E-03	1.9E-04	1.9E-03
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	3.6E-03	8.3E-03	9.4E-04	1.3E-02
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	9.5E-04	3.4E-03	2.5E-04	4.6E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	1.5E-05	8.5E-04	4.0E-06	8.7E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	1.1E-03	4.9E-03	2.9E-04	6.3E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	8.0E-03	0	2.1E-03	1.0E-02
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	2.0E-02	8.1E-03	5.4E-03	0.034
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	6.4E-03	1.5E-01	1.7E-03	0.155
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	1.1E-02	2.1E-02	2.9E-03	0.035
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	1.3E-04	6.6E-05	3.5E-05	2.3E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	5.8E-05	0	5.8E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	5.3E-04	1.2E-03	1.4E-04	1.8E-03
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	5.6E-04	0	1.5E-04	7.1E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	1.5E-02	1.3E-02	4.0E-03	0.033
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	9.5E-05	0	2.5E-05	1.2E-04
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	3.0E-02	4.3E-02	7.9E-03	0.080
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	5.8E-03	1.2E-02	1.5E-03	2.0E-02
Total volatile organic HAPs					1.50%	1.30%	**0.109**	**0.278**	**0.029**	**0.416**

Methodology
Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [TOC (tons/yr)]
Specieation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations
TOC = Total Organic Compounds
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
MTBE = Methyl tert butyl ether

Appendix A.1: Unlimited Emissions Calculations
Material Storage Piles

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

Ef = 1.7*(s/1.5)*(365-p)/235*(f/15)
where Ef = emission factor (lb/acre/day)
s = silt content (wt %)
p = 125 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.24	0.132	0.046
Limestone	1.6	1.85	0.92	0.311	0.109
RAP	0.5	0.58	1.38	0.146	0.051
Gravel	1.6	1.85	0.11	0.037	0.013
Slag	3.8	4.40	0.09	0.072	0.025
Shingles	3.8	4.40	0.40	0.321	0.112
			Totals	**1.02**	**0.36**

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
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PTE = Potential to Emit
RAP - recycled asphalt pavement

Appendix A.1: Unlimited Emissions Calculations
Material Processing, Handling, Crushing, Screening, and Conveying

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)
To estimate potential fugitive dust emissions from processing and hangling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

Ef = k*(0.0032)*[(U/5)^1.3 / (M/2)^1.4]

where: Ef =	Emission factor (lb/ton)	
k (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U =	10.2	= worst case annual mean wind speed (Source: NOAA, 2006*)
M =	4.0	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
Ef (PM) =	2.27E-03	lb PM/ton of material handled
Ef (PM10) =	1.07E-03	lb PM10/ton of material handled
Ef (PM2.5) =	1.62E-04	lb PM2.5/ton of material handled

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,328,800	tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	3.77	1.78	0.27
Front-end loader dumping of materials into feeder bins	3.77	1.78	0.27
Conveyor dropping material into dryer/mixer or batch tower	3.77	1.78	0.27
Total (tons/yr)	**11.32**	**5.35**	**0.81**

Methodology
The percent asphalt cement/binder provided by the source.
Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additivies
*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 11.19.2)
To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 11.19.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	8.99	3.99
Screening	0.025	0.0087	41.61	14.48
Conveying	0.003	0.0011	4.99	1.83
Unlimited Potential to Emit (tons/yr) =			**55.59**	**20.31**

Methodology
Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Unlimited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]
Raw materials may include stone/gravel, slag, 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 weigh (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: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Unpaved Roads at Industrial Site
The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,328,800	tons/yr
Maximum Asphalt Cement/Binder Throughput =	175,200	tons/yr
Maximum No. 2 Fuel Oil Usage =	8,447,143	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	1.5E+05	5.9E+06	845	0.160	23,777.14
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	845	0.160	23,777.14
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	4.9E+03	2.3E+05	0	0	0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	4.9E+03	5.8E+04	0	0	0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	8.9E+02	3.9E+04	0	0	0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	8.9E+02	1.1E+04	0	0	0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	7.9E+05	1.5E+07	211	0.040	31,702.86
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	7.9E+05	1.2E+07	211	0.040	31,702.86
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.5E+05	6.0E+06	845	0.160	23,360.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	845	0.160	23,360.00
	Total				**2.2E+06**	**4.4E+07**			**1.6E+05**

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.072	miles/trip

Unmitigated Emission Factor, Ef = k*[(s/12)^a]*[(W/3)^b] (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [(365 - P)/365]
Mitigated Emission Factor, Eext = E * [(365 - P)/365]
where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	6.09	1.55	0.16	lb/mile
Mitigated Emission Factor, Eext =	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	72.46	18.47	1.85	47.65	12.14	1.21	23.82	6.07	0.61
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	72.46	18.47	1.85	47.65	12.14	1.21	23.82	6.07	0.61
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	96.61	24.62	2.46	63.53	16.19	1.62	31.76	8.10	0.81
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	96.61	24.62	2.46	63.53	16.19	1.62	31.76	8.10	0.81
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	71.19	18.14	1.81	46.81	11.93	1.19	23.40	5.97	0.60
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	71.19	18.14	1.81	46.81	11.93	1.19	23.40	5.97	0.60
	Totals	**480.53**	**122.47**	**12.25**	**315.96**	**80.53**	**8.05**	**157.98**	**40.26**	**4.03**

Methodology
Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PM2.5 = PM10
PTE = Potential to Emit

Appendix A: Unlimited Emissions Calculations
Paved Roads

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Paved Roads at Industrial Site
The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,328,800	tons/yr
Maximum Asphalt Cement/Binder Throughput =	175,200	tons/yr
Maximum No. 2 Fuel Oil Usage =	8,447,143	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	1.5E+05	5.9E+06	845	0.160	23,777.14
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	845	0.160	23,777.14
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	4.9E+03	2.3E+05	1,373	0.260	1,265.33
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	4.9E+03	5.8E+04	1,373	0.260	1,265.33
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	8.9E+02	3.9E+04	1,373	0.260	231.98
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	8.9E+02	1.1E+04	1,373	0.260	231.98
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	7.9E+05	1.5E+07	0	0	0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	7.9E+05	1.2E+07	0	0	0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	1.5E+05	6.0E+06	845	0.160	23,360.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	845	0.160	23,360.00
	Total				**2.2E+06**	**4.4E+07**			**9.7E+04**

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.044	miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m^2 = Ubitiguous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)]
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]

where p =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365	days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	0.15	0.03	0.01	lb/mile
Mitigated Emission Factor, Eext =	0.14	0.03	0.01	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	1.77	0.35	0.09	1.62	0.32	0.08	0.81	0.16	0.04
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	1.77	0.35	0.09	1.62	0.32	0.08	0.81	0.16	0.04
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.094	0.019	4.6E-03	0.086	0.017	4.2E-03	0.043	8.6E-03	2.1E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.094	0.019	4.6E-03	0.086	0.017	4.2E-03	0.043	8.6E-03	2.1E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.7E-02	3.5E-03	8.5E-04	1.6E-02	3.2E-03	7.7E-04	7.9E-03	1.6E-03	3.9E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.7E-02	3.5E-03	8.5E-04	1.6E-02	3.2E-03	7.7E-04	7.9E-03	1.6E-03	3.9E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	1.74	0.35	0.09	1.59	0.32	0.08	0.79	0.16	0.04
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	1.74	0.35	0.09	1.59	0.32	0.08	0.79	0.16	0.04
	Totals	**7.23**	**1.45**	**0.36**	**6.61**	**1.32**	**0.32**	**3.31**	**0.66**	**0.16**

Methodology
Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PM2.5 = PM10
PTE = Potential to Emit

Appendix A.1: Unlimited Emissions Calculations
Cold Mix Asphalt Production and Stockpiles

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Asphalt Cement/Binder Throughput =	175,200	tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Usage (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	44,325.60	42,109.32
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	50,107.20	35,075.04
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	35,040.00	8,760.00
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	26,280.00	12,193.92
Other asphalt with solvent binder	25.9%	2.5%	45,376.80	1,134.42
			Worst Case PTE of VOC =	**42,109.32**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
PTE of Total HAPs (tons/yr) =	**10,983.67**	
PTE of Single HAP (tons/yr) =	**3,789.84**	**Xylenes**

Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents

		Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
Volatile Organic HAP	CAS#	Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
Total Organic HAPs		**26.08%**	**0.33%**	**1.29%**	**0.68%**	**0.19%**
Worst Single HAP		**9.00% Xylenes**	**0.31% Naphthalene**	**0.50% Xylenes**	**0.23% Xylenes**	**0.07% Chrysene**

Methodology
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] * [Maximum Weight % of VOC Solvent in Binder]
PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [Maximum VOC Solvent Usage (tons/yr)]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

Appendix A.1: Unlimited Emissions Calculations
Gasoline Fuel Transfer and Dispensing Operation

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling emission factors from AP-42 Table 5.2-7 were used. The total potential emission of VOC is as follows:

Gasoline Throughput =	0	gallons/day
=	0	kgal/yr

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0
Tank breathing and emptying	1.0	0
Vehicle refueling (displaced losses - controlled)	1.1	0
Spillage	0.7	0
Total		**0**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	**0**	
Limited PTE of Single HAP (tons/yr) =	**0**	**Xylenes**

Methodology
The gasoline throughput was provided by the source.
Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] * [365 days/yr] * [kgal/1000 gal]
PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Entire Source - Drum Mix

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Asphalt Plant Limitations - Drum Mix

Maximum Hourly Asphalt Production =	400	ton/hr								
Annual Asphalt Production Limitation =	1,306,817	ton/yr								
Blast Furnace Slag Usage Limitation =	50,000	ton/yr	1.50	% sulfur						
Steel Slag Usage Limitation =	1,306,817		0.66	% sulfur						
Natural Gas Limitation =	785	MMCF/yr								
No. 2 Fuel Oil Limitation =	2,117,904	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 =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	1,363,911	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead
Diesel Fuel Oil Limitation =	77,433		0.50	% sulfur						

PM Dryer/Mixer Limitation =	0.247	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.109	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.133	lb/ton of asphalt production
SO2 Dryer/Mixer Limitation =	0.058	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
Blast Furnace Slag SO2 Dryer/Mixer Limitation =	0.740	lb/ton of slag processed
Steel Slag SO2 Dryer/Mixer Limitation =	0.0014	lb/ton of slag processed
Cold Mix Asphalt VOC Usage Limitation =	53.44	tons/yr
HCl Limitation =	13.2	lb/kgal

Limited/Controlled Emissions

	Limited/Controlled Potential Emissions (tons/year)										
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants		
Process Description	**PM**	**PM10**	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**	**CO_2e**	**Total HAPs**	**Worst Case HAP**	
Ducted Emissions											
Dryer Fuel Combustion (worst case)	44.52	35.48	35.48	75.19	74.55	2.16	32.96	47,434.22	10.34	9.00	(hydrogen chloride)
Dryer/Mixer (Process)	161.64	71.51	86.72	37.90	35.94	20.91	84.94	21,727.14	6.96	2.03	(formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	18.50	0	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.11	0.18	0.18	3.78	1.06	0.04	0.63	1,202.06	0.017	0.013	(hexane)
Astec Crusher Fuel Combustion	1.64	1.64	1.64	1.54	23.39	1.91	5.04	872.98	0.021	0.006	(formaldehyde)
Worst Case Emissions*	**163.39**	**73.33**	**88.54**	**99.00**	**99.00**	**22.86**	**90.61**	**49,509.25**	**10.37**	**9.00**	**(hydrogen chloride)**
Fugitive Emissions											
Asphalt Load-Out, Silo Filling, On-Site Yard	0.72	0.72	0.72	0	0	11.19	1.88	0	0.19	0.06	(formaldehyde)
Material Storage Piles	1.02	0.36	0.36	0	0	0	0	0	0	0	
Material Processing and Handling	4.22	2.00	0.30	0	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	20.73	7.57	7.57	0	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	58.92	15.02	1.50	0	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	53.44	0	0	13.94	4.81	(xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	0	
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	negl	
Total Fugitive Emissions	**85.61**	**25.67**	**10.46**	**0**	**0**	**64.63**	**1.88**	**0**	**14.13**	**4.81**	(xylenes)
Totals Limited/Controlled Emissions	**249.00**	**99.00**	**99.00**	**99.00**	**99.00**	**87.49**	**92.49**	**49,509.25**	**24.50**	**9.00**	**(hydrogen chloride)**

negl = negligible
Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.
*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion
Fuel component percentages provided by the source.

Appendix A.2: Limited Emissions Summary
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/hr

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the limited emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

Production and Fuel Limitations

Maximum Hourly Asphalt Production =	400	ton/hr								
Annual Asphalt Production Limitation =	1,306,817	ton/yr								
Natural Gas Limitation =	785	MMCF/yr								
No. 2 Fuel Oil Limitation =	2,117,904	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 =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	1,363,911	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead

Limited Emissions

	Emission Factor (units)							Limited Potential to Emit (tons/yr)							
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2	7	3.22	0.5	0.6	65.28	0.75	2.12	0	0	0	0	44.52	**44.52**
PM10	7.6	3.3	8.3	4.72	0.5	0.6	52.02	2.98	3.49	0	0	0	0	35.48	**35.48**
SO2	0.6	71.0	0	0	0	0	110.3	0.24	75.19	0	0	0	0	75.19	**75.19**
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	74.55	25.41	0	0	0	0	12.96	**74.55**
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.16	0.21	0	0	0	0	0.68	**2.16**
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	32.96	5.29	0	0	0	0	3.41	**32.96**
Hazardous Air Pollutant															
HCl							13.2							9.00	**9.00**
Antimony			5.25E-03	5.25E-03			negl			0	0			negl	**0**
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	7.8E-05	5.93E-04	0	0			7.50E-02	**0.08**
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	4.7E-06	4.45E-04	0	0			negl	**4.4E-04**
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	4.3E-04	4.45E-04	0	0			6.34E-03	**6.3E-03**
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	5.5E-04	4.45E-04	0	0			1.36E-02	**0.01**
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	3.3E-05		0	0			1.43E-04	**1.4E-04**
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.0E-04	1.33E-03	0	0			3.8E-01	**0.38**
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.5E-04	8.90E-04	0	0			4.64E-02	**0.05**
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.0E-04	4.45E-04	0	0				**4.4E-04**
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	8.2E-04	4.45E-04	0	0			7.50E-03	**0.01**
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	9.4E-06	2.22E-03	0	0			negl	**2.2E-03**
1.1.1-Trichloroethane			2.36E-04	2.36E-04						0	0				**0**
1,3-Butadiene															**0**
Acetaldehyde															**0**
Acrolein															**0**
Benzene	2.1E-03		2.14E-04	2.14E-04				8.2E-04		0	0				**8.2E-04**
Bis(2-ethylhexyl)phthalate							2.2E-03							1.50E-03	**1.5E-03**
Dichlorobenzene	1.2E-03						8.0E-07	4.7E-04						5.46E-07	**4.7E-04**
Ethylbenzene			6.36E-05	6.36E-05						0	0				**0**
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				2.9E-02	6.46E-02	0	0				**0.06**
Hexane	1.8E+00							0.71							**0.71**
Phenol							2.4E-03							1.64E-03	**1.6E-03**
Toluene	3.4E-03		6.20E-03	6.20E-03				1.3E-03		0	0				**1.3E-03**
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0	0			2.67E-02	**0.03**
Polycyclic Organic Matter		3.30E-03							3.49E-03						**3.5E-03**
Xylene			1.09E-04	1.09E-04						0	0				**0**
							Total HAPs	**0.74**	**0.08**	**0**	**0**	**0**	**0**	**9.56**	**10.34**

Methodology
Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
Sources of AP-42 Emission Factors for fuel combustion:
Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
No. 2, No.4, and No.6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
SO2 = Sulfur Dioxide
NOx = Nitrous Oxides
VOC - Volatile Organic Compounds
CO = Carbon Monoxide
HAP = Hazardous Air Pollutant
HCl = Hydrogen Chloride
PAH = Polyaromatic Hydrocarbon

*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO2e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the limited emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

Production and Fuel Limitations

Maximum Hourly Asphalt Production =	400	ton/hr										
Annual Asphalt Production Limitation =	1,306,817	ton/yr										
Natural Gas Limitation =	785	MMCF/yr										
No. 2 Fuel Oil Limitation =	2,117,904	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 =	0	gal/yr, and	0	gr/100 ft3 sulfur								
Used/Waste Oil Limitation =	1,363,911	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead		

Limited Emissions

	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
CO2e Fraction	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO2	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO_2	1
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH_4	21
N2O	2.20	0.26	0.19	0.53	0.90	0.90	0.18	Nitrous oxide	N_2O	310

	Limited Potential to Emit (tons/yr)						
CO2e Fraction	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO2	47,146.08	23,827.92	0	0	0	0	15,019.49
CH4	0.98	0.97	0	0	0	0	0.61
N2O	0.86	0.28	0	0	0	0	0.12
Total	47,147.93	23,829.16	0	0	0	0	15,020.23
CO2e Equivalent Emissions (tons/yr)	47,434.22	23,933.57	0	0	0	0	15,070.33

CO2e for Worst Case Fuel* (tons/yr)
47,434.22

Methodology
Fuel Limitations from TSD Appendix A.2, page 1 of 15.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter
No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3
No.4 Fuel Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.
Residual (No. 5 or No. 6) Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
Propane and Butane: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
Waste Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.
Emission Factor (EF) Conversions
Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]
Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]
Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
Limited CO2e Emissions (tons/yr) = CO2 Potential Emission of "worst case" fuel (ton/yr) x CO2 GWP (1) + CH4 Potential Emission of "worst case" fuel (ton/yr) x CH4 GWP (21) + N2O Potential Emission of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations
CH4 = Methane CO2 = Carbon Dioxide N2O = Nitrogen Dioxide PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Dryer/Mixer

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the limited emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	1,306,817	ton/yr
PM Dryer/Mixer Limitation =	0.247	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.109	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.133	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

	Emission Factor or Limitation (lb/ton) Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Limited/Controlled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	**Worse Case PTE**
PM*	0.247	0.247	0.247	161.64	161.64	161.64	**161.64**
PM10*	0.109	0.109	0.109	71.51	71.51	71.51	**71.51**
PM2.5*	0.133	0.133	0.133	86.72	86.72	86.72	**86.72**
SO2**	0.003	0.011	0.058	2.22	7.19	37.90	**37.90**
NOx**	0.026	0.055	0.055	16.99	35.94	35.94	**35.94**
VOC**	0.032	0.032	0.032	20.91	20.91	20.91	**20.91**
CO***	0.130	0.130	0.130	84.94	84.94	84.94	**84.94**
Hazardous Air Pollutant							
HCl			2.10E-04			0.14	**0.14**
Antimony	1.80E-07	1.80E-07	1.80E-07	1.18E-04	1.18E-04	1.18E-04	**1.18E-04**
Arsenic	5.60E-07	5.60E-07	5.60E-07	3.66E-04	3.66E-04	3.66E-04	**3.66E-04**
Beryllium	negl	negl	negl	negl	negl	negl	**0**
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.68E-04	2.68E-04	2.68E-04	**2.68E-04**
Chromium	5.50E-06	5.50E-06	5.50E-06	3.59E-03	3.59E-03	3.59E-03	**3.59E-03**
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.70E-05	1.70E-05	1.70E-05	**1.70E-05**
Lead	6.20E-07	1.50E-05	1.50E-05	4.05E-04	9.80E-03	9.80E-03	**9.80E-03**
Manganese	7.70E-06	7.70E-06	7.70E-06	5.03E-03	5.03E-03	5.03E-03	**5.03E-03**
Mercury	2.40E-07	2.60E-06	2.60E-06	1.57E-04	1.70E-03	1.70E-03	**1.70E-03**
Nickel	6.30E-05	6.30E-05	6.30E-05	4.12E-02	4.12E-02	4.12E-02	**0.04**
Selenium	3.50E-07	3.50E-07	3.50E-07	2.29E-04	2.29E-04	2.29E-04	**2.29E-04**
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	2.61E-02	2.61E-02	2.61E-02	**0.03**
Acetaldehyde			1.30E-03			0.85	**0.85**
Acrolein			2.60E-05			1.70E-02	**0.02**
Benzene	3.90E-04	3.90E-04	3.90E-04	0.25	0.25	0.25	**0.25**
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.16	0.16	0.16	**0.16**
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	2.03	2.03	2.03	**2.03**
Hexane	9.20E-04	9.20E-04	9.20E-04	0.60	0.60	0.60	**0.60**
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			0.08	**0.08**
Quinone			1.60E-04			0.10	**0.10**
Toluene	1.50E-04	2.90E-03	2.90E-03	0.10	1.89	1.89	**1.89**
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.12	0.57	0.57	**0.57**
Xylene	2.00E-04	2.00E-04	2.00E-04	0.13	0.13	0.13	**0.13**
						Total HAPs	**6.96**
						Worst Single HAP	**2.03** **(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

VOC - Volatile Organic Compounds
SO2 = Sulfur Dioxide
PAH = Polyaromatic Hydrocarbon
HCl = Hydrogen Chloride
HAP = Hazardous Air Pollutant

Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO2e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the limited emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	1,306,817	ton/yr

	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)				Limited Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil	Greenhouse Gas Global Warming Potentials (GWP)	Natural Gas	No. 2 Fuel Oil	Waste Oil	**CO2e for Worst Case Fuel (tons/yr)**
CO2	33	33	33	1	21,562.48	21,562.48	21,562.48	**21,727.14**
CH4	0.0120	0.0120	0.0120	21	7.84	7.84	7.84	
N2O				310	0	0	0	
				Total	21,570.32	21,570.32	21,570.32	
				CO2e Equivalent Emissions (tons/yr)	21,727.14	21,727.14	21,727.14	

Methodology

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

There are no emission factors for N20 available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N2O emissions anticipated from this process.

Limited/Controlled Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

Limited CO2e Emissions (tons/yr) = CO2 Potential Emission of "worst case" fuel (ton/yr) x CO2 GWP (1) + CH4 Potential Emission of "worst case" fuel (ton/yr) x CH4 GWP (21) + N2O Potential Emission of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

CO2 = Carbon Dioxide CH4 = Methane N2O = Nitrogen Dioxide PTE = Potential to Emit

Appendix A.2: Limited Emissions Calculations
Dryer/Mixer Slag Processing

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the limited emissions from the processing of slag in the aggregate drying/mixing

Limited Blast Furnace Slag Usage =	50,000	ton/yr	1.50	% sulfur
Limited Annual Steel Slag Usage =	1,306,817	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	18.5
Steel Slag	0.0014	0.91

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: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate =	1.70	MMBtu/hr		
Natural Gas Usage =	15	MMCF/yr		
No. 2 Fuel Oil Usage =	106,371	gal/yr, and	0.50	% sulfur

Unlimited/Uncontrolled Emissions

	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	0.014	0.106	**0.11**
PM10/PM2.5	7.6	3.3	0.057	0.176	**0.18**
SO2	0.6	71.0	0.004	3.776	**3.78**
NOx	100	20.0	0.745	1.064	**1.06**
VOC	5.5	0.20	0.041	0.011	**0.04**
CO	84	5.0	0.625	0.266	**0.63**
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.5E-06	2.98E-05	**3.0E-05**
Beryllium	1.2E-05	4.2E-04	8.9E-08	2.23E-05	**2.2E-05**
Cadmium	1.1E-03	4.2E-04	8.2E-06	2.23E-05	**2.2E-05**
Chromium	1.4E-03	4.2E-04	1.0E-05	2.23E-05	**2.2E-05**
Cobalt	8.4E-05		6.3E-07		**6.3E-07**
Lead	5.0E-04	1.3E-03	3.7E-06	6.70E-05	**6.7E-05**
Manganese	3.8E-04	8.4E-04	2.8E-06	4.47E-05	**4.5E-05**
Mercury	2.6E-04	4.2E-04	1.9E-06	2.23E-05	**2.2E-05**
Nickel	2.1E-03	4.2E-04	1.6E-05	2.23E-05	**2.2E-05**
Selenium	2.4E-05	2.1E-03	1.8E-07	1.12E-04	**1.1E-04**
Benzene	2.1E-03		1.6E-05		**1.6E-05**
Dichlorobenzene	1.2E-03		8.9E-06		**8.9E-06**
Ethylbenzene					**0**
Formaldehyde	7.5E-02	6.10E-02	5.6E-04	3.24E-03	**0.003**
Hexane	1.8E+00		0.01		**0.013**
Phenol					**0**
Toluene	3.4E-03		2.5E-05		**2.5E-05**
Total PAH Haps	negl		negl		**0**
Polycyclic Organic Matter		3.30E-03		1.76E-04	**1.8E-04**
		Total HAPs =	**1.4E-02**	**3.8E-03**	**0.017**

Methodology

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
Sources of AP-42 Emission Factors for fuel combustion:
Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
SO2 = Sulfur Dioxide
NOx = Nitrous Oxides
VOC - Volatile Organic Compounds
CO = Carbon Monoxide
HAP = Hazardous Air Pollutant
HCl = Hydrogen Chloride
PAH = Polyaromatic Hydrocarbon

Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO2e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate =	1.70	MMBtu/hr		
Natural Gas Usage =	14.89	MMCF/yr		
No. 2 Fuel Oil Usage =	106,371.43	gal/yr,	0.50	% sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units) Natural Gas (lb/MMCF)	Emission Factor (units) No. 2 Fuel Oil (lb/kgal)	Greenhouse Gas Global Warming Potentials (GWP)	to Emit (tons/yr) Natural Gas (tons/yr)	to Emit (tons/yr) No. 2 Fuel Oil (tons/yr)	Worse Case CO2e Emissions (tons/yr)
CO2	120,161.84	22,501.41	1	894.73	1,196.75	1,202.06
CH4	2.49	0.91	21	0.019	4.86E-02	
N2O	2.20	0.26	310	0.016	1.38E-02	
			Total	894.76	1,196.82	

CO2e Equivalent Emissions (tons/yr)	900.19	1,202.06

Methodology

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas : Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2

No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Propane and Butane: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

CH4 = Methane CO2 = Carbon Dioxide N2O = Nitrogen Dioxide PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Reciprocating Internal Combustion Engines
Diesel Fuel-fired Portable Crusher
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Emissions calculated based on fuel usage limit (gal/yr):

Diesel Engine Oil Usage[1] = 77,433 gal/yr
Sulfur Content = 0.50 % sulfur

	Criteria Pollutants						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	42.47	42.47	42.47	39.73	604.17	49.32	130.15
Potential Emission in tons/yr	1.64	1.64	1.64	1.54	23.39	1.91	5.04

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

	Hazardous Air Pollutants (HAPs)							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/kgal****	1.28E-01	5.60E-02	3.90E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Potential Emission in tons/yr	4.95E-03	2.17E-03	1.51E-03	2.07E-04	**0.006**	4.07E-03	4.91E-04	8.91E-04

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/MMBtu were converted to lb/kgal using the heating value of diesel fuel oil (137,000 Btu/gal) as taken from AP 42 Appendix A (09/85), page A-5.

Potential Emission of Total Combined HAPs (tons/yr)	**0.021**

Notes
Constant: 1 kilogallon (kgal) = 1000 gallons (gal)
The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.
Emission Factors for Diesel Fuel Oil combustion are from AP 42 - 3.3 Gasoline and Diesel Industrial Engines (Supplement B 10/96), Tables 3.3-1 and 3.3-2
[1]The diesel fuel usage rate was determined using the maximum fuel input rate for the crusher (see Appendix A.1 for more details).

Methodology
Potential Throughput (hp-hr/yr) = Output Horsepower Rating (hp) * Maximum Operating Hours per Year
Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]
Limited Potential to Emit (tons/yr) = Diesel Engine Oil Usage (gal/yr)) * Emission Factor (lb/kgal)) / (1000 gal/kgal * 2,000 lb/ton)]

Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO2e) Emissions from the
Diesel Fuel-fired Portable Crusher
Reciprocating Internal Combustion Engines
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Emissions calculated based on fuel usage limit (gal/yr):

Diesel Engine Oil Usage[1] =	77,433	gal/yr
Sulfur Content =	0.50	% sulfur

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO_2	1
Methane	CH_4	21
Nitrous oxide	N_2O	310

	Limited Potential to Emit (tons/yr)		
	CO2	CH4	N2O
Emission Factor in lb/kgal	22,472.92	0.91	0.18
Potential Emission in tons/yr	870.08	0.04	0.01
Summed Potential Emissions in tons/yr	870.12		
CO2e Equivalent Emissions (tons/yr) *	872.98		

Notes
Constant: 1 kilogallon (kgal) = 1000 gallons (gal)
The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
Diesel Engine Oil: Emission Factor for CO2 from AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1, has been converted from lb/MMBtu to lb/kgal. Emission Factors for CH4 and N2O from 40 CFR Part 98 Subpart C, Table C-2, have been converted from kg/mmBtu to lb/kgal.
Emission Factor (EF) Conversion
for CO2: EF (lb/kgal) = [EF (lb/MMbtu) x average heating value of diesel (19,300 Btu/lb) x Conversion Factor (1/1,000,000 MMBtu/Btu) x density of diesel (7.1 lb/gal) x Conversion Factor (1,000 gal/kgal)
for CH4 & N2O: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

[1]The diesel fuel usage rate was determined using the maximum fuel input rate for the crusher (see TSD Appendix A.1 for more details).
*The source will limit the combined CO2e emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and dryer mixer process, such that the CO2e emissions do not exceed 99,000 tons per year. Compliance with these limits will be demonstrated using equations.

Methodology
Potential Throughput (hp-hr/yr) = Output Horsepower Rating (hp) * Maximum Operating Hours per Year
Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]
Limited Potential to Emit (tons/yr) = [Diesel Engine Oil Usage (gal/yr)) * Emission Factor (lb/kgal)) / (1000 gal/kgal * 2,000 lb/ton)] * Global Warming Potential
Limited CO2e Emissions (tons/yr) = CO2 Potential Emission (ton/yr) x CO2 GWP (1) + CH4 Potential Emission (ton/yr) x CH4 GWP (21) + N2O Potential Emission (ton/yr) x N2O GWP (310).

Appendix A.2: Limited Emissions Summary
Asphalt Load-Out, Silo Filling, and Yard Emissions

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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 =	1,306,817	tons/yr

	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
Pollutant	**Load-Out**	**Silo Filling**	**On-Site Yard**	**Load-Out**	**Silo Filling**	**On-Site Yard**	**Total**
Total PM*	5.2E-04	5.9E-04	NA	0.34	0.38	NA	**0.72**
Organic PM	3.4E-04	2.5E-04	NA	0.22	0.166	NA	**0.39**
TOC	0.004	0.012	0.001	2.72	7.96	0.719	**11.4**
CO	0.001	0.001	3.5E-04	0.88	0.771	0.230	**1.88**

NA = Not Applicable (no AP-42 Emission Factor)

PM/HAPs	**0.016**	**0.019**	**0**	**0.035**
VOC/HAPs	**0.040**	**0.101**	**0.011**	**0.152**
non-VOC/HAPs	**2.1E-04**	**2.1E-05**	**5.5E-05**	**2.9E-04**
non-VOC/non-HAPs	**0.20**	**0.11**	**0.05**	**0.36**

Total VOCs	**2.55**	**7.96**	**0.7**	**11.2**
Total HAPs	**0.06**	**0.12**	**0.011**	**0.19**
			Worst Single HAP	**0.058 (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: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Organic Particulate-Based Compounds (Table 11.1-15)

					Speciation Profile		Limited Potential to Emit (tons/yr)			
Pollutant	**CASRN**	**Category**	**HAP Type**	**Source**	**Load-out and Onsite Yard (% by weight of Total Organic PM)**	**Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)**	**Load-out**	**Silo Filling**	**Onsite Yard**	**Total**
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	5.8E-04	7.8E-04	NA	1.4E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	6.2E-05	2.3E-05	NA	8.6E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.6E-04	2.2E-04	NA	3.7E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	4.2E-05	9.3E-05	NA	1.4E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.7E-05	0	NA	1.7E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	4.9E-06	0	NA	4.9E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	4.2E-06	0	NA	4.2E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	5.1E-06	0	NA	5.1E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.7E-05	1.6E-05	NA	3.3E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	2.3E-04	3.5E-04	NA	5.8E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	8.2E-07	0	NA	8.2E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.1E-04	2.5E-04	NA	3.6E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.7E-03	1.7E-03	NA	3.4E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.0E-06	0	NA	1.0E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	5.3E-03	8.7E-03	NA	0.014
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	2.8E-03	3.0E-03	NA	5.8E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	4.9E-05	5.0E-05	NA	9.9E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.8E-03	3.0E-03	NA	4.8E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	3.3E-04	7.3E-04	NA	1.1E-03
Total PAH HAPs							**0.013**	**0.019**	**NA**	**0.032**
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.6E-03	0	0	2.6E-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)
Limited Emissions

Organic Volatile-Based Compounds (Table 11.1-16)

					Speciation Profile		Limited Potential to Emit (tons/yr)			
Pollutant	**CASRN**	**Category**	**HAP Type**	**Source**	**Load-out and Onsite Yard (% by weight of TOC)**	**Silo Filling and Asphalt Storage Tank (% by weight of TOC)**	**Load-out**	**Silo Filling**	**Onsite Yard**	**Total**
VOC		VOC	---	TOC	94%	100%	**2.55**	**7.96**	**0.68**	**11.19**
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.8E-01	2.1E-02	4.7E-02	0.244
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.3E-03	4.4E-03	3.3E-04	0.006
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.9E-02	8.8E-02	5.1E-03	0.112
Total non-VOC/non-HAPS					7.30%	1.40%	**0.198**	**0.111**	**0.052**	**0.36**
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.4E-03	2.5E-03	3.7E-04	4.3E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.6E-04	3.9E-04	6.9E-05	7.2E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.3E-03	3.1E-03	3.5E-04	4.8E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	3.5E-04	1.3E-03	9.3E-05	1.7E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	5.7E-06	3.2E-04	1.5E-06	3.3E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	4.1E-04	1.8E-03	1.1E-04	2.3E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	3.0E-03	0	7.9E-04	3.8E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	7.6E-03	3.0E-03	2.0E-03	0.013
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	2.4E-03	5.5E-02	6.3E-04	0.058
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	4.1E-03	8.0E-03	1.1E-03	0.013
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	4.9E-05	2.5E-05	1.3E-05	8.7E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.1E-05	0	2.1E-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%	2.0E-04	4.3E-04	5.2E-05	6.8E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.1E-04	0	5.5E-05	2.6E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	5.7E-03	4.9E-03	1.5E-03	0.012
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	3.5E-05	0	9.3E-06	4.5E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.1E-02	1.6E-02	2.9E-03	0.030
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.2E-03	4.5E-03	5.7E-04	7.3E-03
Total volatile organic HAPs					1.50%	1.30%	**0.041**	**0.104**	**0.011**	**0.155**

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: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Note: Since the emissions from the storage piles are minimal, the limited emissions are equal to the unlimited emissions.

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

Ef = 1.7*(s/1.5)*(365-p)/235*(f/15)
where Ef = emission factor (lb/acre/day)
s = silt content (wt %)
p = 125 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.24	0.132	0.046
Limestone	1.6	1.85	0.92	0.311	0.109
RAP	0.5	0.58	1.38	0.146	0.051
Gravel	1.6	1.85	0.11	0.037	0.013
Slag	3.8	4.40	0.09	0.072	0.025
Shingles	3.8	4.40	0.40	0.321	0.112
			Totals	**1.02**	**0.36**

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
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: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)

To estimate potential fugitive dust emissions from processing and hangling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

Ef = k*(0.0032)*[(U/5)^1.3 / (M/2)^1.4]

where: Ef =	Emission factor (lb/ton)	
k (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U =	10.2	= worst case annual mean wind speed (Source: NOAA, 2006*)
M =	4.0	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
Ef (PM) =	2.27E-03	lb PM/ton of material handled
Ef (PM10) =	1.07E-03	lb PM10/ton of material handled
Ef (PM2.5) =	1.62E-04	lb PM2.5/ton of material handled

Annual Asphalt Production Limitation =	1,306,817	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,241,476	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	1.41	0.67	0.10
Front-end loader dumping of materials into feeder bins	1.41	0.67	0.10
Conveyor dropping material into dryer/mixer or batch tower	1.41	0.67	0.10
Total (tons/yr)	**4.22**	**2.00**	**0.30**

Methodology
The percent asphalt cement/binder provided by the source.
Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additivies
*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 19.2.2)
To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 19.2.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	3.35	1.49
Screening	0.025	0.0087	15.52	5.40
Conveying	0.003	0.0011	1.86	0.68
Limited Potential to Emit (tons/yr) =			**20.73**	**7.57**

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: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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 =	1,306,817	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,241,476	tons/yr
Maximum Asphalt Cement/Binder Throughput =	65,341	tons/yr
No. 2 Fuel Oil Limitation =	2,117,904	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	5.5E+04	2.2E+06	845	0.160	8,867.7
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	5.5E+04	9.4E+05	845	0.160	8,867.7
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.8E+03	8.7E+04	0	0	0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.8E+03	2.2E+04	0	0	0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.2E+02	9.8E+03	0	0	0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.2E+02	2.7E+03	0	0	0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	3.0E+05	5.7E+06	211	0.040	11,823.6
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	3.0E+05	4.4E+06	211	0.040	11,823.6
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	5.4E+04	2.2E+06	845	0.160	8,712.1
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	5.4E+04	9.3E+05	845	0.160	8,712.1
	Total				**8.2E+05**	**1.7E+07**			**5.9E+04**

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.072	miles/trip

Unmitigated Emission Factor, Ef = k*[(s/12)^a]*[(W/3)^b] (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [(365 - P)/365]
Mitigated Emission Factor, Eext = E * [(365 - P)/365]
where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	6.09	1.55	0.16	lb/mile
Mitigated Emission Factor, Eext =	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	27.02	6.89	0.69	17.77	4.53	0.45	8.88	2.26	0.23
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	27.02	6.89	0.69	17.77	4.53	0.45	8.88	2.26	0.23
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	36.03	9.18	0.92	23.69	6.04	0.60	11.85	3.02	0.30
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	36.03	9.18	0.92	23.69	6.04	0.60	11.85	3.02	0.30
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	26.55	6.77	0.68	17.46	4.45	0.44	8.73	2.22	0.22
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	26.55	6.77	0.68	17.46	4.45	0.44	8.73	2.22	0.22
	Totals	**179.20**	**45.67**	**4.57**	**117.83**	**30.03**	**3.00**	**58.92**	**15.02**	**1.50**

Methodology
Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)
PM2.5 = PM10

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Paved Roads
Limited Emissions

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

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 =	1,306,817	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,241,476	tons/yr
Maximum Asphalt Cement/Binder Throughput =	65,341	tons/yr
No. 2 Fuel Oil Limitation =	2,117,904	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	5.5E+04	2.2E+06	845	0.160	8,867.7
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	5.5E+04	9.4E+05	845	0.160	8,867.7
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.8E+03	8.7E+04	1,373	0.260	471.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.8E+03	2.2E+04	1,373	0.260	471.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.2E+02	9.8E+03	1,373	0.260	58.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.2E+02	2.7E+03	1,373	0.260	58.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	3.0E+05	5.7E+06	0	0	0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	3.0E+05	4.4E+06	0	0	0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	5.4E+04	2.2E+06	845	0.160	8,712.1
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	5.4E+04	9.3E+05	845	0.160	8,712.1
	Total				**8.2E+05**	**1.7E+07**			**3.6E+04**

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.044	miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m^2 = Ubitiguous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)]
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]

where p =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365	days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	0.15	0.03	0.01	lb/mile
Mitigated Emission Factor, Eext =	0.14	0.03	0.01	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.66	0.13	0.03	0.60	0.12	0.03	0.30	0.06	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.66	0.13	0.03	0.60	0.12	0.03	0.30	0.06	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.035	0.007	1.7E-03	0.032	0.006	1.6E-03	0.016	3.2E-03	7.9E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.035	0.007	1.7E-03	0.032	0.006	1.6E-03	0.016	3.2E-03	7.9E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	4.3E-03	8.6E-04	2.1E-04	4.0E-03	7.9E-04	1.9E-04	2.0E-03	4.0E-04	9.7E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	4.3E-03	8.6E-04	2.1E-04	4.0E-03	7.9E-04	1.9E-04	2.0E-03	4.0E-04	9.7E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.65	0.13	0.03	0.59	0.12	0.03	0.30	0.06	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.65	0.13	0.03	0.59	0.12	0.03	0.30	0.06	0.01
	Totals	**2.69**	**0.54**	**0.13**	**2.46**	**0.49**	**0.12**	**1.23**	**0.25**	**0.06**

Methodology
Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PM2.5 = PM10
PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Cold Mix Asphalt Production and Stockpiles

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Cold Mix Asphalt VOC Usage Limitation = 53.44 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%	56.25	53.44	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	76.34	53.44	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	213.76	53.44	4.000
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	115.17	53.44	2.155
Other asphalt with solvent binder	25.9%	2.5%	2,137.64	53.44	40.0
Worst Case Limited PTE of VOC =				**53.44**	

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	**13.94**	
Limited PTE of Single HAP (tons/yr) =	**4.81**	**Xylenes**

Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents*

		Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
Volatile Organic HAP	CAS#	Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
Total Organic HAPs		**26.08%**	**0.33%**	**1.29%**	**0.68%**	**0.19%**
Worst Single HAP		**9.00% Xylenes**	**0.31% Naphthalene**	**0.50% Xylenes**	**0.23% Xylenes**	**0.07% Chrysene**

Methodology
Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [VOC Solvent Usage Limitation (tons/yr)]
Limited PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
Limited PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Gasoline Fuel Transfer and Dispensing Operation

Company Name: Milestone Contractors, L.P.
Source Address: 201 East Rampart Street, Shelbyville, Indiana 46176
Permit Number: F145-23091-03230
Revision Number: F145-31102-03230
Reviewer: Hannah L. Desrosiers
Date Received: 11/4/2011

Note: Since the emissions from the gasoline fuel transfer and dispensing operation are minimal, the limited emissions are equal to the unlimited emissions.

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling emission factors from AP-42 Table 5.2-7 were used. The total potential emission of VOC is as follows:

Gasoline Throughput =	0	gallons/day
=	0	kgal/yr

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0
Tank breathing and emptying	1.0	0
Vehicle refueling (displaced losses - controlled)	1.1	0
Spillage	0.7	0
Total		**0**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	**0**	
Limited PTE of Single HAP (tons/yr) =	**0**	**Xylenes**

Methodology
The gasoline throughput was provided by the source.
Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] * [365 days/yr] * [kgal/1000 gal]
PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Robert Beyke
Milestone Contractors, LP
5950 S Belmont Ave
Indianapolis, IN 46217

DATE: February 21, 2012

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Significant Permit Revision
145-31102-03230

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Jim Gross (Vice President – Asphalt)
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

February 21, 2012

TO: Shelbyville – Shelby County Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Milestone Contractors, LP
Permit Number: 145-31102-03230

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: February 21, 2012

RE: Milestone Contractors, LP / 145-31102-03230

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

In order to conserve paper and reduce postage costs, IDEM's Office of Air Quality is now sending many permit decisions on CDs in Adobe PDF format. The enclosed CD contains information regarding the company named above.

This permit is also available on the IDEM website at:
http://www.in.gov/ai/appfiles/idem-caats/

If you would like to request a paper copy of the permit document, please contact IDEM's central file room at:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Please Note: *If you feel you have received this information in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV.*

Enclosures
CD Memo.dot 11/14/08

Mail Code 61-53

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2		Jim Gross VP Asphalt Milestone Contractors, L.P. 5950 S Belmont Ave Indianapolis IN 46217 *(RO CAATS)*									
3		Mr. Charles L. Berger Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 *(Affected Party)*									
4		Mr. Hugh Garner 10203 S Degelow Road Milroy IN 46156 *(Affected Party)*									
5		St. Paul Stone Company 519 South County Line Rd Saint Paul IN 47272 *(Affected Party)*									
6		Mr. Paul Land 220 South County Line Rd Saint Paul IN 47272 *(Affected Party)*									
7		Mr. Gary Gross P.O. Box 114 Saint Paul IN 47272 *(Affected Party)*									
8		Shelbyville City Council and Mayors Office 44 West Washington Shelbyville IN 46176 *(Local Official)*									
9		Shelby County Commissioners 25 West Polk Shelbyville IN 46176 *(Local Official)*									
10		Mr. Herbert Adams 8145 S 750 E Saint Paul IN 47272 *(Affected Party)*									
11		Shelbyville Shelby Co Public 57 W Broadway Shelbyville IN 46176-1294 *(Library)*									
12		Shelby County Health Department 1600 E. SR 44B Shelbyville IN 46176 *(Health Department)*									
13		Margaret Brunk Shelby County Council PO Box 107 Fountaintown In 46130 (Affected Party)									
14		Tami Grubbs Shelby County Council 2961 N 100 W Shelbyville In 46176 *(Affected Party)*									
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