



# 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](http://www.idem.IN.gov)

TO: Interested Parties / Applicant

DATE: April 12, 2012

RE: Milestone Contractors, L.P. / 171-31109-03273

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

## Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures  
FNPER.dot12/03/07



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

April 12, 2012

Re: 171-31109-03273  
First Significant Permit Revision to  
F 111-23687-03273

Dear Mr. Beyke:

Milestone Contractors, L.P. was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F 111-23687-03273, on July 18, 2007, for a portable drum mix asphalt pavement production plant, located at 235 U.S. Highway 24, Kentland, Indiana 47951 and currently located at 3255 West 650 South, Williamsport, Indiana 47993. 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:

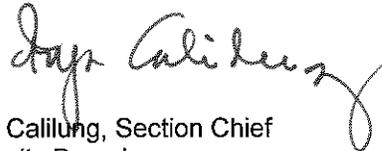
1. General Construction Conditions  
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by 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. Renee Traivaranon, of my staff, at 317-234-5615 or 1-800-451-6027, and ask for extension 4-5615.

Sincerely,



Iryn Calilung, Section Chief  
Permits Branch  
Office of Air Quality

Attachments: Technical Support Documents and revised permit with attachments  
IC/rt

cc: File - Warren County  
Warren 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.  
Portable**

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

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

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

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

Operation Permit No.: F111-23687-03273	
Original signed by: Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: July 18, 2007  Expiration Date: July 18, 2017

First Administrative Amendment No.: F111-25975-03273, issued on February 19, 2008  
First Portable Source Relocation No.: 171-30289-03273, issued on March 24, 2011

First Significant Permit Revision No.: 171-31109-03273	
Issued by:   Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: April 12, 2012  Expiration Date: July 18, 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 portable drum mix asphalt pavement production plant and cold mix asphalt production operation. Recycled asphalt pavement (RAP) is crushed on-site, and blast furnace, 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.

Initial Source Address:	235 U.S. Highway 24, Kentland, Indiana 47951
Current Source Address:	3255 West 650 South, Williamsport, Indiana 47993
General Source Phone Number:	(317) 788-6885
SIC Code:	2951
County Location:	Warren
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 portable source consists of the following emission units and pollution control devices:

- (a) one (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 324 tons per hour of raw material, approved for modification in 2012 to add blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) re-refined waste oil fired aggregate dryer burner with a maximum rated capacity of 102 million (MM) British thermal units (Btu) per hour using No. 2 distillate fuel oil, and approved for modification in 2012 to add propane and natural gas as a back-up fuel and one (1) baghouse for air pollution control, exhausting at one (1) stack, identified as S-1;
- (b) one (1) bucket elevator, three (3) feed conveyors, and one (1) screen;
- (c) one (1) liquid asphalt storage tank, identified as Tank 18, with a maximum storage capacity of 20,000 gallons, exhausting to one (1) vent, identified as V-7;
- (d) one (1) No. 2 distillate fuel oil fired tank heater, identified as emission unit No. 12, rated at 1.5 MMBtu per hour, exhausting at two (2) stacks, identified as S-3A and S-3B;
- (e) one (1) No. 2 distillate fuel oil direct fired tank heater, connected to Tank 18, identified as emission unit No. 19, rated at 0.84 MMBtu per hour, exhausting to one (1) stack, identified as S-8;
- (f) one (1) liquid asphalt storage tank, identified as Tank 11, with a maximum storage capacity of 30,000 gallons, exhausting at one (1) stack, identified as V-2;

- (g) one (1) re-refined waste oil storage tank, identified as Tank 13, with a maximum storage capacity of 19,000 gallons, exhausting at one (1) stack, identified as V-4;
- (h) one (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 170 tons;
- (i) one (1) hot mix asphalt cement storage silo, with a maximum storage capacity of 70 tons;
- (j) one (1) Recycled Asphalt Pavement (RAP) feed bin;
- (k) aggregate storage piles, including Blast furnace and/or electric arc steel slag storage piles and Supplier certified asbestos-free factory seconds and/or post consumer waste shingles storage piles, with a maximum storage capacity of 42,680 tons;
- (l) cold-mix (stockpile mix) asphalt manufacturing operation and storage piles.

Above units Under 40 CFR 60, Subpart I, this asphalt plant is considered an affected source.

- (m) one (1) Genset No. 2 distillate fuel oil fired reciprocating internal combustion generator, constructed in 1984, identified as emission unit 14, rated at 5.786 MMBtu per hour, exhausting at two (2) stacks, identified as S-5A and S-5B;

Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, this is considered an affected facility.

- (n) one (1) Genset No. 2 distillate fuel oil fired reciprocating internal combustion, constructed in 1992, identified as emission unit 15, rated at 0.41 MMBtu per hour, exhausting at one (1) stack, identified as S-6;

Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, this is considered an affected facility.

- (o) One (1) 430 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 500 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.

Under 40 CFR 1068.30, General Compliance Provisions for Highway, Stationary, and Nonroad Programs - Definitions, this unit this is considered a nonroad engine.

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

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This portable source does not currently have any insignificant activities, as defined in 326 IAC 2-7-1(21).

- (a) propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than 6.0 MMBtu per hour;
- (b) combustion source flame safety purging on startup;

- (c) a petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month;
- (d) 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;
- (e) vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (f) application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings;
- (g) degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 (parts washer using non-HAP Safety Kleen or Crystal Clean solvent);
- (h) cleaners and solvents having a vapor pressure equal to or less than 2 kPa; 15mm Hg; or 0.3 psi measured at 38 degrees C (100°F) or; having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20°C (68°); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months;
- (i) closed loop heating and cooling systems;
- (j) paved and unpaved roads and parking lots with public access; and
- (k) a laboratory as defined in 326 IAC 2-7-1(21)(D).

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

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

## SECTION B GENERAL CONDITIONS

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

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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)]

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- (a) This permit, F 111-23687-03273, 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]

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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]

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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)]

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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)]

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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)]

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- (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)]

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- (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)]**

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

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

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

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

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

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

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

- (a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

- (b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

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

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- (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 F 111-23687-03273 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)]**

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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]**

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- (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)]**

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- (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) 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:

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)(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]**

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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]**

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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]**

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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.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e) 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, when the source is located in any County except Lake, Porter, LaPorte, or the areas specified in (b)(1) through (7).
- (b) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in the following areas listed in 326 IAC 5-1-1(c):
  - (1) Clark County (Jefferson Township - Cities of Jeffersonville, Clarksville, and Oak Park);
  - (2) Dearborn County (Lawrenceburg Township - Cities of Lawrenceburg and Greendale);
  - (3) Dubois County (Bainbridge Township - the City of Jasper);
  - (4) Marion County (except the area of Washington Township east of Fall Creek and the area of Franklin Township south of Thompson Road and east of Five Points Road);
  - (5) St. Joseph County (the area north of Kern Road and east of Pine Road);
  - (6) Vanderburgh County (the area included in the City of Evansville and Pigeon Township); and
  - (7) Vigo County (Indiana State University campus, 0.5 km radius around UTM Easting 464,519.00, Northing 4,369,208.00, Zone 16).
- (c) 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]**

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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]**

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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]**

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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]**

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

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

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

All required notifications shall be submitted to:

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

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

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

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

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

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

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- (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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Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
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no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

### **Compliance Requirements [326 IAC 2-1.1-11]**

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

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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)]**

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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  
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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)]**

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- (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]**

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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]**

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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]**

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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:
  - (AA) All calibration and maintenance records.
  - (BB) All original strip chart recordings for continuous monitoring instrumentation.
  - (CC) Copies of all reports required by the FESOP.Records of required monitoring information include the following:
  - (AA) The date, place, as defined in this permit, and time of sampling or measurements.
  - (BB) The dates analyses were performed.
  - (CC) The company or entity that performed the analyses.

- (DD) The analytical techniques or methods used.
- (EE) The results of such analyses.
- (FF) The operating conditions as existing at the time of sampling or measurement.

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

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

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

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- (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.

**Portable Source Requirement**

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

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- (a) This permit is approved for operation in all areas of Indiana except in Lake and Porter Counties (due to additional requirements for these counties). This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2, and Emission Offset requirements in 326 IAC 2-3. Prior to locating in any severe

nonattainment area, the Permittee must submit a request and obtain a permit modification.

- (b) A request to relocate shall be submitted to IDEM, OAQ at least thirty (30) days prior to the intended date of relocation. This submittal shall include the following:
- (1) A list of governmental officials entitled to receive notice of application to relocate. IC 13-15-3-1
  - (2) A list of adjacent landowners that the Permittee will send written notice to not more than ten (10) days after submission of the request to relocate. IC 13-15-8
  - (3) The new location address of the portable source.
  - (4) Whether or not this portable source will be relocated to another source.
  - (5) If relocating to another source:
    - (A) Name, location address, and permit number of the source this portable source is relocating to.
    - (B) Whether or not the sources will be considered as one source. See Non Rule Policy (NRP) Air-005 and Air-006.
  - (6) If the sources will be considered as one source, whether or not the source to be relocated to has received the necessary approvals from IDEM to allow the relocation.
- 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).
- (c) A "Relocation Site Approval" letter shall be obtained prior to relocating.
- (d) A valid operation permit consists of this document and any subsequent "Relocation Site Approval" letter specifying the current location of the portable plant.

### **Stratospheric Ozone Protection**

#### **C.20 Compliance with 40 CFR 82 and 326 IAC 22-1**

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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 drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 324 tons per hour of raw material, approved for modification in 2012 to add blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) re-refined waste oil fired aggregate dryer burner with a maximum rated capacity of 102 million (MM) British thermal units (Btu) per hour using No. 2 distillate fuel oil, and approved for modification in 2012 to add propane and natural gas as a back-up fuel and one (1) baghouse for air pollution control, exhausting at one (1) stack, identified as S-1;
- (b) one (1) bucket elevator, three (3) feed conveyors, and one (1) screen;
- (c) one (1) liquid asphalt storage tank, identified as Tank 18, with a maximum storage capacity of 20,000 gallons, exhausting to one (1) vent, identified as V-7;
- (d) one (1) No. 2 distillate fuel oil fired tank heater, identified as emission unit No. 12, rated at 1.5 MMBtu per hour, exhausting at two (2) stacks, identified as S-3A and S-3B;
- (e) one (1) No. 2 distillate fuel oil direct fired tank heater, connected to Tank 18, identified as emission unit No. 19, rated at 0.84 MMBtu per hour, exhausting to one (1) stack, identified as S-8;
- (f) one (1) liquid asphalt storage tank, identified as Tank 11, with a maximum storage capacity of 30,000 gallons, exhausting at one (1) stack, identified as V-2;
- (g) one (1) re-refined waste oil storage tank, identified as Tank 13, with a maximum storage capacity of 19,000 gallons, exhausting at one (1) stack, identified as V-4;
- (h) one (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 170 tons;
- (i) one (1) hot mix asphalt cement storage silo, with a maximum storage capacity of 70 tons;
- (j) one (1) Recycled Asphalt Pavement (RAP) feed bin;
- (k) aggregate storage piles, including Blast furnace and/or electric arc steel slag storage piles and Supplier certified asbestos-free factory seconds and/or post consumer waste shingles storage piles, with a maximum storage capacity of 42,680 tons;

Above units Under 40 CFR 60, Subpart I, this asphalt plant is considered an affected source.

- (m) one (1) Genset No. 2 distillate fuel oil fired reciprocating internal combustion generator, constructed in 1984, identified as emission unit 14, rated at 5.786 MMBtu per hour, exhausting at two (2) stacks, identified as S-5A and S-5B;

Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, this is considered an affected facility.

- (n) one (1) Genset No. 2 distillate fuel oil fired reciprocating internal combustion, constructed in 1992, identified as emission unit 15, rated at 0.41 MMBtu per hour, exhausting at one (1) stack, identified as S-6;

Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, 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.)

### **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 1,000,000 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 0.365 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, SO<sub>2</sub>, NO<sub>x</sub>, VOC, and CO [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-1.1-5][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 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM<sub>10</sub> emissions from the dryer/mixer shall not exceed 0.155 pounds per ton of asphalt processed.
- (c) The PM<sub>2.5</sub> emissions from the dryer/mixer shall not exceed 0.174 pounds of PM<sub>2.5</sub> per ton of asphalt produced.
- (d) The SO<sub>2</sub> emissions from the dryer/mixer shall not exceed 0.058 pounds per ton of asphalt processed.
- (e) The NO<sub>x</sub> emissions from the dryer/mixer shall not exceed 0.055 pounds per ton of asphalt processed.
- (f) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.
- (g) 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 PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, 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)), not applicable.

Additionally, compliance with the limit in condition D.1.2(f) 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: SO<sub>2</sub>, NO<sub>X</sub>, 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 combusted in the dryer burner and generators 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 No. 2 distillate fuel oil combusted in the generators burner shall not exceed 0.50% by weight.
- (6) The sulfur content of the Blast Furnace slag shall not exceed 1.50% by weight.
- (7) The SO<sub>2</sub> emissions from the dryer/mixer shall not exceed 0.740 pounds per ton of Blast Furnace slag processed in the aggregate mix.
- (8) The sulfur content of the Steel slag shall not exceed 0.66% by weight.
- (9) The SO<sub>2</sub> 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:

- (1) 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:
  - (A) Natural gas usage in the dryer/mixer burner shall not exceed 810.4 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.
  - (B) No. 2 fuel oil usage in the dryer/mixer burner shall not exceed 1,802,942 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
  - (C) Propane usage in the dryer/mixer burner shall not exceed 9,073,204 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
  - (D) Waste oil usage in the dryer/mixer burner shall not exceed 1,106,657 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month; and

(E) 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.

(2) When combusting only one type of fuel in the generators, the usage of distillate fuel #2 in the generators shall not exceed 65,000 gallons per consecutive twelve (12) month period, with compliance determined at the end of each month;

Note: The source is only permitted to burn the above-mentioned fuels in the associated emission units.

(c) Multiple Fuel and Slag Usage Limitation:

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

(1) SO<sub>2</sub> emissions from the dryer/mixer burner and generators, in conjunction with the use of slag in the aggregate mix, combined, shall not exceed 84.80 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(2) NO<sub>x</sub> emissions from the dryer/mixer burner and generators, combined, shall not exceed 91.55 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(3) HCl emissions from the dryer/mixer burner shall not exceed 7.30 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 SO<sub>2</sub>, NO<sub>x</sub>, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO<sub>2</sub> and NO<sub>x</sub> 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 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the dryer/mixer shall not exceed 0.03 grain per dry standard cubic foot of exhaust air when the source is located in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties.

D.1.5 Sulfur Dioxide (SO<sub>2</sub>) [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 (SO<sub>2</sub>) emissions from the dryer/mixer burner and generators burner, each, shall not exceed five tenths (0.5) pounds per MMBtu when using distillate oil.
- (2) The sulfur dioxide (SO<sub>2</sub>) 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.1.6 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.1.7 Particulate Control

- (a) In order to comply with Conditions D.1.1(b), D.1.2(b), D.1.2(c), and D.1.4, 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.1.8 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), D.1.2(c), and D.1.4, the Permittee shall perform PM, PM<sub>10</sub>, and PM<sub>2.5</sub> testing of the dryer/mixer not later than 180 days after the startup of the dryer/mixer, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of 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. PM<sub>10</sub> and PM<sub>2.5</sub> includes filterable and condensable particulate matter.
- (b) In order to demonstrate compliance with Condition D.1.3(a)(7), when using Blast Furnace slag, the Permittee shall perform SO<sub>2</sub> 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 SO<sub>2</sub> 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.1.9 Sulfur Dioxide (SO<sub>2</sub>) Emissions and Sulfur Content

##### ***Fuel Oil***

- (a) Pursuant to 326 IAC 3-7-4 and 326 IAC 2-8-4, compliance with the fuel limitations established in Conditions D.1.3(a)(1), D.1.3(a)(2), D.1.3(a)(5) and D.1.5, shall be determined utilizing one of the following options. 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 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) Pursuant to 326 IAC 2-8-4, compliance with the blast furnace slag limitation established in Condition D.1.3(a)(6) shall be determined utilizing one of the following options. 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 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) Pursuant to 326 IAC 2-8-4, compliance with the steel slag limitations established in Condition D.1.3(a)(8) shall be determined utilizing one of the following options. 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 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.1.10 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) and D.1.3(a)(4), by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.

#### D.1.11 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 and generators, in conjunction with the use of slag in the aggregate mix, emissions from the dryer/mixer and generators shall be limited as follows:

(a) Sulfur Dioxide (SO<sub>2</sub>) Emission Calculation

$$SO_2 = \frac{G(E_G) + O(E_O) + P(E_P) + W(E_W) + D(E_D) + B(E_B) + T(E_T)}{2,000 \text{ lbs/ton}}$$

where:

- SO<sub>2</sub> = tons of sulfur dioxide emissions for a 12-month consecutive period
- G = gallons of natural gas used in the dryer/mixer in the last 12 months
- O = gallons of No. 2 fuel oil used in the dryer/mixer in the last 12 months
- P = gallons of propane used in the dryer/mixer in the last 12 months
- W = gallons of waste oil used in the dryer/mixer in the last 12 months
- D = gallons of No. 2 fuel oil used in the genset generators in the last 12 months
- B = tons of blast furnace slag used in the dryer/mixer in the last 12 months
- T = tons of steel slag used in the in the dryer/mixer last 12 months
- E<sub>G</sub> = 0.60 lb/million cubic feet of natural gas
- E<sub>O</sub> = 71.0 lb/1000 gallons of No. 2 fuel oil
- E<sub>P</sub> = 0.02 lb/1000 gallons of propane
- E<sub>W</sub> = 110.3 lb/1000 gallons of waste oil
- E<sub>D</sub> = 70.7 lb/1000 gallons of No. 2 fuel oil
- E<sub>B</sub> = 0.74 lb/ton of blast furnace slag used
- E<sub>T</sub> = 0.0014 lb/ton of steel slag used

(b) Nitrogen Oxides (NO<sub>x</sub>) Emission Calculation

$$NO_x = \frac{G(E_G) + O(E_O) + P(E_P) + W(E_W) + D(E_D)}{2,000 \text{ lbs/ton}}$$

where:

- NO<sub>x</sub> = tons of nitrogen oxide emissions for a 12-month consecutive period;
- G = million cubic feet of natural gas used in the in the dryer/mixer last 12 months;
- O = gallons of No. 2 fuel oil used in the in the dryer/mixer last 12 months;
- P = gallons of propane used in the dryer/mixer in the last 12 months
- W = gallons of reclaimed/waste oil used in the in the dryer/mixer last 12 months.

D = gallons of No. 2 fuel oil used in the genset generator in the last 12 months  
E<sub>G</sub> = 190 lb/million cubic feet of natural gas;  
E<sub>O</sub> = 24.0 lb/1000 gallons of No. 2 fuel oil;  
E<sub>P</sub> = 13.0 lb/1000 gallons of propane  
E<sub>W</sub> = 19.0 lb/1000 gallons of waste oil.  
E<sub>D</sub> = 266 lb/1000 gallons of No. 2 fuel oil.

(c) HCl emissions Calculation:

$$\text{HCl} = \frac{W(E_W)}{2,000 \text{ lbs/ton}} \text{ _____}$$

where:

HCl = tons of Hydrogen Chloride emissions for twelve (12) month consecutive period  
W = gallons of waste oil used in the last 12 months  
E<sub>W</sub> = 13.2 lb/1000 gallons of waste oil

D.1.12 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.1.13 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.1.14 Parametric Monitoring

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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.1.15 Broken or Failed Bag Detection

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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.1.16 Record Keeping Requirements

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- (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.1.5, 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.1.5.
  - (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 (HCl) 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:
    - (A) Fuel supplier certifications;
    - (B) The name of the fuel supplier; and
    - (C) A statement from the fuel supplier that certifies the sulfur content of the No. 2, fuel oil, distillate fuel oil, 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:
    - (A) Blast furnace and steel slag supplier certifications;
    - (B) The name of the blast furnace and steel slag supplier; and
    - (C) 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.1.13, 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.1.14, 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.1.17 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:

(l) Cold-mix (stockpile mix) asphalt manufacturing operations and asphalt 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 60.55 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 63.74 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 tons per twelve (12) consecutive month period, with compliance 86.50 determined at the end of each month.
  - (3) The amount of VOC solvent used in slow cure cutback asphalt shall not exceed 242.21 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 130.50 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 2,422.07 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, single HAP to less than 10 tons per twelve (12) consecutive month period, and any combination of HAPs to less than 25 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**

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- (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**

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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 D.3 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

- (g) degreasing operations that do not exceed 145 gallons per 12 months, except if subject 326 IAC 20-6 (parts washer using non-HAP Safety Kleen or Crystal Clean solvent);

(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.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations, the owner or operator shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

## SECTION E.1

## NSPS REQUIREMENTS

### Emissions Unit Description: Hot-mix Asphalt Plant

- (a) one (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 324 tons per hour of raw material, approved for modification in 2012 to add blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) re-refined waste oil fired aggregate dryer burner with a maximum rated capacity of 102 million (MM) British thermal units (Btu) per hour using No. 2 distillate fuel oil, and approved for modification in 2012 to add propane and natural gas as a back-up fuel and one (1) baghouse for air pollution control, exhausting at one (1) stack, identified as S-1;
- (b) one (1) bucket elevator, three (3) feed conveyors, and one (1) screen;
- (c) one (1) liquid asphalt storage tank, identified as Tank 18, with a maximum storage capacity of 20,000 gallons, exhausting to one (1) vent, identified as V-7;
- (d) one (1) No. 2 distillate fuel oil fired tank heater, identified as emission unit No. 12, rated at 1.5 MMBtu per hour, exhausting at two (2) stacks, identified as S-3A and S-3B;
- (e) one (1) No. 2 distillate fuel oil direct fired tank heater, connected to Tank 18, identified as emission unit No. 19, rated at 0.84 MMBtu per hour, exhausting to one (1) stack, identified as S-8;
- (f) one (1) liquid asphalt storage tank, identified as Tank 11, with a maximum storage capacity of 30,000 gallons, exhausting at one (1) stack, identified as V-2;
- (g) one (1) re-refined waste oil storage tank, identified as Tank 13, with a maximum storage capacity of 19,000 gallons, exhausting at one (1) stack, identified as V-4;
- (h) one (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 170 tons;
- (i) one (1) hot mix asphalt cement storage silo, with a maximum storage capacity of 70 tons;
- (j) one (1) Recycled Asphalt Pavement (RAP) feed bin;
- (k) aggregate storage piles, including Blast furnace and/or electric arc steel slag storage piles and Supplier certified asbestos-free factory seconds and/or post consumer waste shingles storage piles, with a maximum storage capacity of 42,680 tons;

Above units Under 40 CFR 60, Subpart I, this asphalt plant is considered an affected source.

(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]

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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]

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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:** Recycled Asphalt Pavement (RAP) Crushing & Screening Operation

- (o) One (1) 430 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 500 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.

Under 40 CFR 1068.30, General Compliance Provisions for Highway, Stationary, and Nonroad Programs - Definitions, 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:

- (a) 40 CFR 60.670(a), (d), (e), and (f)  
(b) 40 CFR 60.671  
(c) 40 CFR 60.672(b), (d), and (e)  
(d) 40 CFR 60.673  
(e) 40 CFR 60.674(b)  
(f) 40 CFR 60.675(a), (c)(1)(i), (ii), (iii), (c)(3), (d), (e), (g), and (i)  
(g) 40 CFR 60.676(a), (b)(1), (f), (h), (i), (j), and (k)  
(h) 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]

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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

## NESHAP REQUIREMENTS

### Emissions Unit Description: Generators

- (m) one (1) Genset No. 2 distillate fuel oil fired reciprocating internal combustion generator, constructed in 1984, identified as emission unit 14, rated at 5.786 MMBtu per hour, exhausting at two (2) stacks, identified as S-5A and S-5B;

Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, this is considered an affected facility.

- (n) one (1) Genset No. 2 distillate fuel oil fired reciprocating internal combustion, constructed in 1992, identified as emission unit 15, rated at 0.41 MMBtu per hour, exhausting at one (1) stack, identified as S-6;

Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, 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.)

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

#### E.3.1 General Provisions Relating to NESHAP [40 CFR Part 63, Subpart A] [326 IAC 20-1]

Pursuant to 40 CFR 63, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions for generators Unit 14 and Unit 15, which are incorporated by reference as 326 IAC 20-1, except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

#### E.3.2 NESHAP for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

- (a) The existing Genset generator Unit 14 is subject to the requirements of the 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary reciprocating internal combustion engine (RICE), which are incorporated by reference as 326 IAC 20-82, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ (included as Attachment D of this permit) as follows:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(1)(iii) and (iv)
- (4) 40 CFR 63.6595(a)(1),(b), and (c)
- (5) 40 CFR 63.6603 (a)
- (6) 40 CFR 63.6604
- (7) 40 CFR 63.6605
- (8) 40 CFR 63.6612
- (9) 40 CFR 63.6615
- (10) 40 CFR 63.6620
- (11) 40 CFR 63.6625 (g) (h)
- (12) 40 CFR 63.6630
- (13) 40 CFR 63.6635
- (14) 40 CFR 63.6640(a), (b), and (e)
- (15) 40 CFR 63.6645 (a)(2), (g), and (h)
- (16) 40 CFR 63.6650

- (17) 40 CFR 63.6655
- (18) 40 CFR 63.6660
- (19) 40 CFR 63.6665
- (20) 40 CFR 63.6670
- (21) 40 CFR 63.6675
- (22) Table 2b
- (23) Table 2d (item 3)
- (24) Table 3 (item 4)
- (25) Table 4 (items 1 and 3)
- (26) Table 5 (items 1, 2, 3, 4, 5, and 6)
- (27) Table 6 (items 3, 10, and 11)
- (28) Table 7 (item 1)
- (29) Table 8

- (b) The existing Genset generator Unit 15 is subject to the requirements of the 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary reciprocating internal combustion engine (RICE), which are incorporated by reference as 326 IAC 20-82, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ (included as Attachment D of this permit) as follows:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(1)(iii)
- (4) 40 CFR 63.6595(a)(1), (b), and (c)
- (5) 40 CFR 63.6603 (a)
- (6) 40 CFR 63.6605
- (7) 40 CFR 63.6625 (e)(4) ], (h), [(i)
- (8) 40 CFR 63.6635 (a)
- (9) 40 CFR 63.6640(a), (b), and (e)
- (10) 40 CFR 63.6645 (a)(5)
- (11) 40 CFR 63.6655 (a) (d) [(e) (3)]
- (12) 40 CFR 63.6660
- (13) 40 CFR 63.6665
- (14) 40 CFR 63.6670
- (15) 40 CFR 63.6675
- (16) Table 2d (item 1)
- (17) Table 6 (item 9)
- (18) Table 8

E.3.3 Testing Requirements [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

The Permittee shall perform the testing required for Unit 14 under NESHAP 40 CFR 63, Subpart ZZZZ, utilizing methods as approved by the Commissioner to document compliance with Condition E.3.2. 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 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.

## SECTION E.4

## NSPS & NESHAP REQUIREMENTS

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

- (o) One (1) 430 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 500 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.

Under 40 CFR 1068.30, General Compliance Provisions for Highway, Stationary, and Nonroad Programs - Definitions, 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.4.1 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.4.2 Record Keeping Requirements**

- (a) To document the compliance status with Condition E.4.1(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.4.1(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.4.3 Reporting Requirements

A quarterly summary of the information to document compliance status with Conditions E.4.1(a) and E.4.1(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.  
Initial Source Address: 3255 West 650 South, Williamsport, Indiana 47993  
FESOP Permit No.: F 111-23687-03273

**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.  
Current Source Address: 3255 West 650 South, Williamsport, Indiana 47993  
FESOP Permit No.: F 111-23687-03273

**This form consists of 2 pages**

**Page 1 of 2**

- |  |
|--|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none"><li>• 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</li><li>• 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</li></ul> |
|--|

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 <sub>2</sub> , VOC, NO <sub>x</sub> , 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.  
Current Source Address: 3255 West 650 South, Williamsport, Indiana 47993  
FESOP Permit No.: F 111-23687-03273  
Facility: Drum mix dryer  
Parameter: Hot mix asphalt production  
Limit: The amount of hot mix asphalt produced in the drum mix dryer shall not exceed 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: \_\_\_\_\_

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

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

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

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

### FESOP Quarterly Report

Page 1 of 3

Source Name: Milestone Contractors, L.P.  
 Current Source Address: 3255 West 650 South, Williamsport, Indiana 47993  
 FESOP Permit No.: F 111-23687-03273  
 Facility: Dryer/Mixer Burner and Generators

Parameter: **Fuel & Slag Usage / SO<sub>2</sub>, and NO<sub>x</sub> emissions**

Emission Limits: Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 84.80 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.11(a).  
Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 91.55 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.11(b).  
Hydrogen Chloride (HCl) emissions shall not exceed 7.30 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.11(c).

Fuel & Slag Limits: When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner, and generators 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)
<b>Dryer/Mixer Burner</b>	
Natural Gas (million cubic feet)	810.4
No. 2 Distillate Fuel Oil (gallons)	1,802,942
Waste Oil (gallons)	1,106,657
Propane (gallons)	9,073,204
No. 2 Distillate Fuel Oil in generators (gallons)	65,000
Blast Furnace (tons)	50,000

Facility: Cold-mix Asphalt Production

Parameter: **Binder Usage / VOC Emissions**

Emission Limits: VOC emissions from the sum of the binders shall not exceed 60.55 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Type of Binder	Binder Usage Limit (per 12 consecutive month period)
Cutback Asphalt Rapid Cure	63.74
Cutback Asphalt Medium Cure	86.50
Cutback Asphalt Slow Cure	242.21
Emulsified Asphalt	130.50
Other Asphalt	2,422.07

**FESOP Quarterly Report - Fuel & Slag Usage / SO<sub>2</sub>, NO<sub>x</sub>, and 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 (SO <sub>2</sub> ) Emissions (tons per 12 months)	Nitrogen Oxides (NO <sub>x</sub> ) 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)						
	Propane (gallons)						
	Fuel Oil (gallons) in Genset						
	Blast Furnace Slag (tons)						
	Steel Furnace Slag (tons)						
Month 2	Natural gas (MMCF)						
	No. 2 Fuel Oil (gallons)						
	Waste Fuel Oil (gallons)						
	Propane (gallons)						
	Fuel Oil (gallons) in Genset						
	Blast Furnace Slag (tons)						
	Steel Furnace Slag (tons)						
Month 3	Natural gas (MMCF)						
	No. 2 Fuel Oil (gallons)						
	Waste Fuel Oil (gallons)						
	Propane (gallons)						
	Fuel Oil (gallons) in Genset						
	Blast Furnace Slag (tons)						
	Steel Furnace Slag (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 - Binder Usage / VOC Emissions**

QUARTER: \_\_\_\_\_ YEAR: \_\_\_\_\_

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

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

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.  
Current Source Address: 3255 West 650 South, Williamsport, Indiana 47993  
FESOP Permit No.: F 111-23687-03273  
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.  
Current Source Address: 3255 West 650 South, Williamsport, Indiana 47993  
FESOP Permit No.: F 111-23687-03273

Months: \_\_\_\_\_ to \_\_\_\_\_ Year: \_\_\_\_\_

Page 1 of 2

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

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

Form Completed by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

**FEDERALLY ENFORCEABLE  
STATE OPERATING PERMIT RENEWAL  
OFFICE OF AIR QUALITY**

**Milestone Contractors, L.P.  
Portable**

**Attachment A**

**HOT-MIX ASPHALT CONCRETE PLANT  
FUGITIVE PARTICULATE MATTER EMISSIONS  
CONTROL PLAN**

**Operation Permit No.: F 111-23687-03273  
Significant Permit Revision No.: 171-31109-03273**

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:
- (a) wet suppression.
  - (b) 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.

*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.

**FEDERALLY ENFORCEABLE  
STATE OPERATING PERMIT RENEWAL  
OFFICE OF AIR QUALITY**

**Milestone Contractors, L.P.  
Portable**

**Attachment B**

**Title 40: Protection of Environment**

**[PART 60—NEW SOURCE PERFORMANCE STANDARDS](#)**

**SUBPART I - STANDARDS OF PERFORMANCE  
FOR HOT MIX ASPHALT FACILITIES**

**Operation Permit No.: F 111-23687-03273  
Significant Permit Revision No.: 171-31109-03273**

## 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&rqn=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.  
Portable**

**Attachment C**

**Title 40: Protection of Environment**

**[PART 60—NEW SOURCE PERFORMANCE STANDARDS](#)**

**Subpart 000 - STANDARDS OF PERFORMANCE  
FOR NONMETALLIC MINERAL PROCESSING PLANTS**

**Operation Permit No.: F 111-23687-03273  
Significant Permit Revision No.: 171-31109-03273**

## 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  $\pm 250$  pascals  $\pm 1$  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  $\pm 5$  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 expeditiously 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 H<sub>2</sub>O (0.05 in. H<sub>2</sub>O)] 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.

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

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 000—Stack Emission Limits for Affected Facilities With Capture Systems**

**Table 2 to Subpart 000—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) <sup>a</sup>	7 percent for dry control devices <sup>b</sup>	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) <sup>a</sup>	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).

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

<sup>b</sup>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 000—Fugitive Emission Limits**

**Table 3 to Subpart 000—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 000—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>

**FEDERALLY ENFORCEABLE  
STATE OPERATING PERMIT RENEWAL  
OFFICE OF AIR QUALITY**

**Milestone Contractors, L.P.  
Portable**

**Attachment D**

**Title 40: Protection of Environment**

[PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS](#)

**Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for  
Stationary Reciprocating Internal Combustion Engines**

**Operation Permit No.: F 111-23687-03273  
Significant Permit Revision No.: 171-31109-03273**

## PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

### **Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**

**Source:** 69 FR 33506, June 15, 2004, unless otherwise noted.

#### **What This Subpart Covers**

#### **§ 63.6580 What is the purpose of subpart ZZZZ?**

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

#### **§ 63.6585 Am I subject to this subpart?**

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

- (a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.
- (b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.
- (c) An area source of HAP emissions is a source that is not a major source.
- (d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.
- (e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

**§ 63.6590 What parts of my plant does this subpart cover?**

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

- (i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.
  - (ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.
- (2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.
- (3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:
- (i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
  - (ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
  - (iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
  - (iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
  - (v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;
  - (vi) Existing residential emergency stationary RICE located at an area source of HAP emissions;
  - (vii) Existing commercial emergency stationary RICE located at an area source of HAP emissions; or
  - (viii) Existing institutional emergency stationary RICE located at an area source of HAP emissions.
- (c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.
- (1) A new or reconstructed stationary RICE located at an area source;
  - (2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
  - (3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010]

**§ 63.6595 When do I have to comply with this subpart?**

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

## **Emission and Operating Limitations**

### **§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?**

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

**§ 63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?**

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

**§ 63.6602 What emission limitations must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?**

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

[75 FR 51589, Aug. 20, 2010]

**§ 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?**

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 1b and Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the Federal Aid Highway System (FAHS) you do not have to meet the numerical CO emission limitations specified in Table 2d to this subpart. Existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the FAHS must meet the management practices that are shown for stationary non-emergency CI RICE less than or equal to 300 HP in Table 2d to this subpart.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

**§ 63.6604 What fuel requirements must I meet if I own or operate an existing stationary CI RICE?**

If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Existing non-emergency CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or at area sources in areas of Alaska not accessible by the FAHS are exempt from the requirements of this section.

[75 FR 51589, Aug. 20, 2010]

**General Compliance Requirements**

**§ 63.6605 What are my general requirements for complying with this subpart?**

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010]

**Testing and Initial Compliance Requirements**

**§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?**

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the

promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

**§ 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?**

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

**§ 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?**

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

- (1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.
- (2) The test must not be older than 2 years.
- (3) The test must be reviewed and accepted by the Administrator.
- (4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

**§ 63.6615 When must I conduct subsequent performance tests?**

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

**§ 63.6620 What performance tests and other procedures must I use?**

- (a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.
- (b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again.
- (c) [Reserved]
- (d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.
- (e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

C<sub>i</sub>= concentration of CO or formaldehyde at the control device inlet,

C<sub>o</sub>= concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

- (2) You must normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO<sub>2</sub>). If pollutant concentrations are to be corrected to 15 percent oxygen and CO<sub>2</sub> concentration is

measured in lieu of oxygen concentration measurement, a CO<sub>2</sub> correction factor is needed. Calculate the CO<sub>2</sub> correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific F<sub>o</sub> value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

Where:

F<sub>o</sub> = Fuel factor based on the ratio of oxygen volume to the ultimate CO<sub>2</sub> volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F<sub>d</sub> = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm<sup>3</sup>/J (dscf/10<sup>6</sup> Btu).

F<sub>c</sub> = Ratio of the volume of CO<sub>2</sub> produced to the gross calorific value of the fuel from Method 19, dsm<sup>3</sup>/J (dscf/10<sup>6</sup> Btu).

(ii) Calculate the CO<sub>2</sub> correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{co_2} = \frac{5.9}{F_o} \quad (\text{Eq. 3})$$

Where:

X<sub>co2</sub> = CO<sub>2</sub> correction factor, percent.

5.9 = 20.9 percent O<sub>2</sub> - 15 percent O<sub>2</sub>, the defined O<sub>2</sub> correction value, percent.

(iii) Calculate the NO<sub>x</sub> and SO<sub>2</sub> gas concentrations adjusted to 15 percent O<sub>2</sub> using CO<sub>2</sub> as follows:

$$C_{adj} = C_d \frac{X_{co_2}}{\%CO_2} \quad (\text{Eq. 4})$$

Where:

%CO<sub>2</sub> = Measured CO<sub>2</sub> concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally ( e.g., operator adjustment, automatic controller adjustment, etc.) or unintentionally ( e.g., wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be

clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010]

**§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?**

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO<sub>2</sub> at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO<sub>2</sub> concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (5) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface ( e.g., thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start landfill or digester gas stationary RICE located at an area source of HAP emissions;

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (g)(2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska not accessible by the FAHS do not have to meet the requirements of paragraph (g) of this section.

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

**§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?**

- (a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.
- (b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.
- (c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

**Continuous Compliance Requirements**

**§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?**

- (a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.
- (b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
- (c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

**§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?**

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) [Reserved]

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) *Requirements for emergency stationary RICE.* (1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed on or after June 12, 2006, or an existing emergency stationary RICE located at an area source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the

manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.

(2) If you own or operate an emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed prior to June 12, 2006, you must operate the engine according to the conditions described in paragraphs (f)(2)(i) through (iii) of this section. If you do not operate the engine according to the requirements in paragraphs (f)(2)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.

(iii) You may operate your emergency stationary RICE for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

## **Notifications, Reports, and Records**

### **§ 63.6645 What notifications must I submit and when?**

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

- (1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.
  - (2) An existing stationary RICE located at an area source of HAP emissions.
  - (3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.
  - (4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.
  - (5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.
- (b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.
- (c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.
- (d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.
- (e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.
- (f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).
- (g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).
- (h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).
- (1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.
  - (2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the

Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

**§ 63.6650 What reports must I submit and when?**

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010]

### **§ 63.6655 What records must I keep?**

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation ( *i.e.*, process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous ( *i.e.*, superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) or (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010]

### **§ 63.6660 In what form and how long must I keep my records?**

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

### **Other Requirements and Information**

#### **§ 63.6665 What parts of the General Provisions apply to me?**

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

#### **§ 63.6670 Who implements and enforces this subpart?**

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

- (1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).
- (2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.
- (3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.
- (4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.
- (5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

### **§ 63.6675 What definitions apply to this subpart?**

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

*Area source* means any stationary source of HAP that is not a major source as defined in part 63.

*Associated equipment* as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

*Black start engine* means an engine whose only purpose is to start up a combustion turbine.

*CAA* means the Clean Air Act (42 U.S.C. 7401 *et seq.*, as amended by Public Law 101-549, 104 Stat. 2399).

*Commercial emergency stationary RICE* means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

*Compression ignition* means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

*Custody transfer* means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

*Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless of whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

*Diesel engine* means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

*Diesel fuel* means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties ( e.g. biodiesel) that is suitable for use in compression ignition engines.

*Digester gas* means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO<sub>2</sub>.

*Dual-fuel engine* means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

*Emergency stationary RICE* means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under §63.6640(f). All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

*Engine startup* means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

*Four-stroke engine* means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

*Gaseous fuel* means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

*Gasoline* means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

*Glycol dehydration unit* means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and

absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

*Hazardous air pollutants (HAP)* means any air pollutants listed in or pursuant to section 112(b) of the CAA.

*Institutional emergency stationary RICE* means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

*ISO standard day conditions* means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

*Landfill gas* means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO<sub>2</sub>.

*Lean burn engine* means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

*Limited use stationary RICE* means any stationary RICE that operates less than 100 hours per year.

*Liquefied petroleum gas* means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

*Liquid fuel* means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

*Major Source*, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

*Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

*Natural gas* means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

*Non-selective catalytic reduction (NSCR)* means an add-on catalytic nitrogen oxides (NO<sub>x</sub>) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO<sub>x</sub>, CO, and volatile organic compounds (VOC) into CO<sub>2</sub>, nitrogen, and water.

*Oil and gas production facility* as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded ( *i.e.*, remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

*Oxidation catalyst* means an add-on catalytic control device that controls CO and VOC by oxidation.

*Peaking unit or engine* means any standby engine intended for use during periods of high demand that are not emergencies.

*Percent load* means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

*Potential to emit* means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

*Production field facility* means those oil and gas production facilities located prior to the point of custody transfer.

*Production well* means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

*Propane* means a colorless gas derived from petroleum and natural gas, with the molecular structure C<sub>3</sub>H<sub>8</sub>.

*Residential emergency stationary RICE* means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

*Responsible official* means responsible official as defined in 40 CFR 70.2.

*Rich burn engine* means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO<sub>x</sub> (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

*Site-rated HP* means the maximum manufacturer's design capacity at engine site conditions.

*Spark ignition* means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

*Stationary reciprocating internal combustion engine (RICE)* means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

*Stationary RICE test cell/stand* means an engine test cell/stand, as defined in subpart P of this part, that tests stationary RICE.

*Stoichiometric* means the theoretical air-to-fuel ratio required for complete combustion.

*Storage vessel with the potential for flash emissions* means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

*Subpart* means 40 CFR part 63, subpart ZZZZ.

*Surface site* means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

*Two-stroke engine* means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011]

**Table 1ato Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions**

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>1</sup>
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub>	

<sup>1</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

**Table 1bto Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed Spark Ignition 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions and Existing Spark Ignition 4SRB Stationary RICE >500 HP Located at an Area Source of HAP Emissions**

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions and existing 4SRB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub> and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust	a. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.

to 2.7 ppmvd or less at 15 percent O <sub>2</sub> and using NSCR.	
2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub> and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O <sub>2</sub> and not using NSCR.	Comply with any operating limitations approved by the Administrator.

[76 FR 12867, Mar. 9, 2011]

**Table 2ato Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions**

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O <sub>2</sub> . If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O <sub>2</sub> until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>1</sup>
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O <sub>2</sub>	
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O <sub>2</sub>	

<sup>1</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

**Table 2bto Subpart ZZZZ of Part 63— Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing Compression Ignition Stationary RICE >500 HP, and Existing 4SLB Stationary RICE >500 HP Located at an Area Source of HAP Emissions**

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and compression ignition stationary RICE located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; existing compression ignition stationary RICE >500 HP; and existing 4SLB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F. <sup>1</sup>
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst	Comply with any operating limitations approved by the Administrator.

<sup>1</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range.

[75 FR 51593, Aug. 20, 2010, as amended at 76 FR 12867, Mar. 9, 2011]

**Table 2cto Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions**

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE. <sup>1</sup>	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>2</sup> b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>3</sup>
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; <sup>2</sup>	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O <sub>2</sub>	
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O <sub>2</sub> ; or	
	b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15	

	percent O <sub>2</sub> ; or	
	b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE. <sup>1</sup>	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>2</sup>	
	b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>2</sup>	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; <sup>2</sup>	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>	
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O <sub>2</sub>	
10. Non-emergency, non-black start 4SLB	Limit concentration of CO in the stationary RICE exhaust to	

stationary RICE 100≤HP≤500	47 ppmvd or less at 15 percent O <sub>2</sub>	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O <sub>2</sub>	
12. Non-emergency, non-black start landfill or digester gas-fired stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O <sub>2</sub>	

<sup>1</sup>If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

<sup>2</sup>Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.

<sup>3</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 51593, Aug. 20, 2010]

**Table 2dto Subpart ZZZZ of Part 63— Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions**

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

<b>For each . . .</b>	<b>You must meet the following requirement, except during periods of startup . . .</b>	<b>During periods of startup you must . . .</b>
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; <sup>1</sup>	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
	b. Inspect air cleaner every 1,000 hours of operation or annually,	

	<p>whichever comes first;                  c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.</p>	
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	<p>a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O<sub>2</sub>;                  or</p>	
	<p>b. Reduce CO emissions by 70 percent or more.</p>	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	<p>a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O<sub>2</sub>;                  or</p>	
	<p>b. Reduce CO emissions by 70 percent or more.</p>	
4. Emergency stationary CI RICE and black start stationary CI RICE. <sup>2</sup>	<p>a. Change oil and filter every 500 hours of operation or annually, whichever comes first;<sup>1</sup></p>	
	<p>b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and</p>	
	<p>c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.</p>	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year. <sup>2</sup>	<p>a. Change oil and filter every 500 hours of operation or annually, whichever comes first;<sup>1</sup>                  b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and                  c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as</p>	

	necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; <sup>1</sup>	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>1</sup>	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd at 15 percent O <sub>2</sub> ; or	
	b. Reduce CO emissions by 93 percent or more.	
9. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>1</sup>	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and	

	belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
10. Non-emergency, non-black start 4SRB stationary RICE >500 HP	a. Limit concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd at 15 percent O <sub>2</sub> ; or	
	b. Reduce formaldehyde emissions by 76 percent or more.	
11. Non-emergency, non-black start landfill or digester gas-fired stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>1</sup>	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

<sup>1</sup>Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

<sup>2</sup>If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[75 FR 51595, Aug. 20, 2010]

**Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests**

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE with a brake horsepower >500 located at major sources; new or reconstructed 4SLB stationary RICE with a brake horsepower $\geq 250$ located at major sources; and new or reconstructed CI stationary RICE with a brake horsepower >500 located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually. <sup>1</sup>
2. 4SRB stationary RICE with a brake horsepower $\geq 5,000$ located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually. <sup>1</sup>
3. Stationary RICE with a brake horsepower >500 located at major sources and new or reconstructed 4SLB stationary RICE with a brake horsepower $250 \leq \text{HP} \leq 500$ located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually. <sup>1</sup>
4. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are not limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year that are not limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year and are limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 5 years, whichever comes first.

<sup>1</sup>After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

**Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests**

As stated in §§63.6610, 63.6611, 63.6612, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. Reduce CO emissions	i. Measure the O <sub>2</sub> at the inlet and outlet of the control device; and	(1) Portable CO and O <sub>2</sub> analyzer	(a) Using ASTM D6522–00 (2005) <sup>a</sup> (incorporated by reference, see §63.14). Measurements to determine O <sub>2</sub> must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) Portable CO and O <sub>2</sub> analyzer	(a) Using ASTM D6522–00 (2005) <sup>ab</sup> (incorporated by reference, see §63.14) or Method 10 of 40 CFR appendix A. The CO concentration must be at 15 percent O <sub>2</sub> , dry basis.
2. 4SRB stationary RICE	a. Reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O <sub>2</sub> at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00m (2005)	(a) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for formaldehyde concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03, <sup>c</sup> provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

3. Stationary RICE	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O <sub>2</sub> concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00 (2005)	(a) Measurements to determine O <sub>2</sub> concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03, <sup>c</sup> provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. Measure CO at the exhaust of the stationary RICE	(1) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522–00 (2005), <sup>a</sup> Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03	(a) CO Concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour longer runs.

<sup>a</sup>You may also use Methods 3A and 10 as options to ASTM–D6522–00 (2005). You may obtain a copy of ASTM–D6522–00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106. ASTM–D6522–00 (2005) may be used to test both CI and SI stationary RICE.

<sup>b</sup>You may also use Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03.

<sup>c</sup>You may obtain a copy of ASTM–D6348–03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

**Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations and Operating Limitations**

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP,	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and

<p>and existing non-emergency 4SLB stationary RICE &gt;500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>		<p>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and          iii. You have recorded the approved operating parameters (if any) during the initial performance test.</p>
<p>5. New or reconstructed non-emergency 2SLB stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE &gt;500 HP located at a major source of HAP, existing non-emergency stationary CI RICE &gt;500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE &gt;500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Reduce CO emissions, and using a CEMS</p>	<p>i. You have installed a CEMS to continuously monitor CO and either O<sub>2</sub> or CO<sub>2</sub> at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and          ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and          iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.</p>
<p>6. Non-emergency stationary CI RICE &gt;500 HP located at a major source of HAP, existing non-emergency stationary CI RICE &gt;500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE &gt;500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Limit the concentration of CO, and using a CEMS</p>	<p>i. You have installed a CEMS to continuously monitor CO and either O<sub>2</sub> or CO<sub>2</sub> at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and          ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and</p>
		<p>iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.</p>
<p>7. Non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE &gt;500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Reduce formaldehyde emissions and using NSCR</p>	<p>i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and          ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and</p>

		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of formaldehyde and not using NSCR	i. The average formaldehyde concentration determined from the initial performance test is less than or equal to the formaldehyde emission limitation; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq HP \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
11. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq HP \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating

		parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Reduce CO or formaldehyde emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
13. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.

[76 FR 12867, Mar. 9, 2011]

**Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices**

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; <sup>a</sup> and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located	a. Reduce CO emissions and not using an	i. Conducting semiannual performance tests for CO to

<p>at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE <math>\geq 250</math> HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE <math>&gt;500</math> HP located at a major source of HAP</p>	<p>oxidation catalyst, and using a CPMS</p>	<p>demonstrate that the required CO percent reduction is achieved;<sup>a</sup> and                  ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and                  iii. Reducing these data to 4-hour rolling averages; and</p>
		<p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</p>
<p>3. New or reconstructed non-emergency 2SLB stationary RICE <math>&gt;500</math> HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE <math>\geq 250</math> HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE <math>&gt;500</math> HP located at a major source of HAP, existing non-emergency stationary CI RICE <math>&gt;500</math> HP, existing non-emergency 4SLB stationary RICE <math>&gt;500</math> HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS</p>	<p>i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and                  ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and                  iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.</p>
<p>4. Non-emergency 4SRB stationary RICE <math>&gt;500</math> HP located at a major source of HAP</p>	<p>a. Reduce formaldehyde emissions and using NSCR</p>	<p>i. Collecting the catalyst inlet temperature data according to §63.6625(b); and</p>
		<p>ii. Reducing these data to 4-hour rolling averages; and</p>
		<p>iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</p>
		<p>iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</p>
<p>5. Non-emergency 4SRB stationary RICE <math>&gt;500</math> HP located at a major source of HAP</p>	<p>a. Reduce formaldehyde emissions and not using NSCR</p>	<p>i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and                  ii. Reducing these data to 4-hour rolling averages; and</p>

		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP $\geq 5,000$ located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved. <sup>a</sup>
7. New or reconstructed non-emergency stationary RICE $>500$ HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit; <sup>a</sup> and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE $>500$ HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit; <sup>a</sup> and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
9. Existing emergency and black start stationary RICE $\leq 500$ HP located at a major source of HAP, existing non-emergency stationary RICE $<100$ HP located at a major source of HAP,	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or

<p>existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE &gt;500 HP located at an area source of HAP that operate 24 hours or less per calendar year</p>		<p>ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.</p>
<p>10. Existing stationary CI RICE &gt;500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE &gt;500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE</p>	<p>a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using oxidation catalyst or NSCR</p>	<p>i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and</p>
		<p>ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and</p>
		<p>iii. Reducing these data to 4-hour rolling averages; and</p>
		<p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</p>
		<p>v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</p>
<p>11. Existing stationary CI RICE &gt;500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE &gt;500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE</p>	<p>a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using oxidation catalyst or NSCR</p>	<p>i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and</p>
		<p>ii. Collecting the approved operating</p>

		parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling

		averages within the operating limitations for the operating parameters established during the performance test.
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<sup>a</sup>After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[76 FR 12870, Mar. 9, 2011]

**Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports**

As stated in §63.6650, you must comply with the following requirements for reports:

For each ...	You must submit a ...	The report must contain ...	You must submit the report ...
1. Existing non-emergency, non-black start stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE $>500$ HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE $>500$ HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE $>300$ HP located at an area source of HAP; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE $>500$ HP located at an area source of HAP and operated more than 24 hours per calendar year; new or reconstructed non-emergency stationary RICE $>500$ HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4) i. Semiannually according to the requirements in §63.6650(b)(1)–(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)–(9) for engines that are limited use stationary RICE subject to numerical emission limitations.	

		i. Semiannually according to the requirements in §63.6650(b). i. Semiannually according to the requirements in §63.6650(b).	
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and i. Annually, according to the requirements in §63.6650.	
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and i. See item 2.a.i.	
		c. Any problems or errors suspected with the meters. i. See item 2.a.i.	

[75 FR 51603, Aug. 20, 2010]

**Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.**

As stated in §63.6665, you must comply with the following applicable general provisions.

<b>General provisions citation</b>	<b>Subject of citation</b>	<b>Applies to subpart</b>	<b>Explanation</b>
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)–(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that	Yes.	

	become major sources		
§63.6(c)(1)–(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)–(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)–(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)–(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.
§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	

§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)–(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	Yes.	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	Yes.	
§63.8(c)(2)–(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)–(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)–(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS

			are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§63.9(b)(1)–(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance extension	Yes	Except that §63.9(c) only applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.
§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)–(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
			Except that §63.9(h) only applies as specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§63.10(b)(1)	Record retention	Yes.	

§63.10(b)(2)(i)–(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)–(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)–(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i) (C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010]

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

Addendum to the Technical Support Document (ATSD) for a  
Significant Permit Revision

<b>Source Background and Description</b>
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<b>Source Name:</b>	<b>Milestone Contractors, L.P. (Portable)</b>
<b>Initial Source Address:</b>	<b>235 U.S. Highway 24, Kentland, Indiana 47951</b>
<b>Current Source Location:</b>	<b>3255 W. 650 South, Williamsport, Indiana 47993</b>
<b>Current County:</b>	<b>Warren</b>
<b>SIC Code:</b>	<b>2951 (Asphalt Paving Mixtures and Blocks)</b>
<b>Operation Permit No.:</b>	<b>F 111 - 23687 - 03273</b>
<b>Operation Permit Issuance Date:</b>	<b>July 18, 2007</b>
<b>Significant Permit Revision No.:</b>	<b>171 - 31109 - 03273</b>
<b>Permit Reviewer:</b>	<b>Renee Traivaranon</b>

On March 8, 2012, the Office of Air Quality (OAQ) had a notice published the The Review Republican in Williamsport, Indiana, stating that Milestone Contractors, L.P. had applied for a significant permit revision to add slag and recycled shingles to their aggregate mix. Milestone has also requested approval to use additional cold-mix emulsions in the production of cold-mix, and to perform onsite RAP crushing. The notice also stated that the OAQ proposed to issue a significant permit revision for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

<b>Comments and Responses</b>
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On March 8, 2012, Milestone Contractors, L.P. submitted comments to IDEM, OAQ on the draft Significant Permit Revision No. 171-31109-03273.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

**Comment 1:**

The company requested that the FESOP Quarterly Report - Liquid Binder (Asphalt Emulsion) Usage / VOC Emissions be reported in tons, not cubic feet nor gallons.

**Response to Comment 1:**

IDEM agrees with these changes since the VOC emissions for the source have been limited to the amount of tons of VOC per twelve (12) consecutive month period. These changes are to correct for typographical error on the report form only and they do not affect any conditions. In addition, the VOC emission equation has been added to the report as follows:

.....  
 FESOP Quarterly Report - Binder Usage / VOC Emissions

QUARTER: \_\_\_\_\_ YEAR: \_\_\_\_\_

Month	Binder/Emulsion Types (units tons)	Column 1	Column 2	Column 1 + Column 2	Equation Results
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	VOC Emissions (tons per 12 months)
Month 1	Cutback asphalt rapid cure liquid binder (MM-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 (MM-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 (MM-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/year) = VOC solvent used for each binder (tons/year)  
 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

**Additional Changes**

IDEM, OAQ has decided to make additional revisions to the permit as described below, with deleted language as ~~strikeouts~~ and new language **bolded**.

- (1) The crusher is considered a nonroad engine under 40 CFR 60 and 40 CFR 63, therefore, the criteria pollutant emissions from combustion are not count toward PSD and TV applicability. IDEM has recalculated the PTE for this source.

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.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)									
	PM	PM <sub>10</sub> *	PM <sub>2.5</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs** as CO <sub>2</sub> e	Total HAPs	Worst Single HAP
<b>Ducted/Ductable Emissions</b>										
Dryer Fuel Combustion (worst case)	<del>35.63</del> <b>36.12</b>	<del>28.40</del> <b>28.78</b>	<del>28.40</del> <b>28.78</b>	<del>60.18</del> <b>64.00</b>	<del>30.88</del> <b>76.99</b>	<del>2.37</del> <b>4.54</b>	<del>17.74</del> <b>34.04</b>	<del>30,257.41</del> <b>58,030.58</b>	<del>8.00</del> <b>8.55</b>	<del>7.21</del> <b>7.30</b> (HCl)
Dryer/Mixer (Process)	182.69	77.38	86.82	29.00	27.5	16.0	65.00	16,626	5.33	1.55 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	18.50	0	0	0	0	0	-
Hot Oil Heater Fuel Combustion (worst case)	0.15	0.24	0.24	5.20	1.46	0.01	0.37	1,654.60	0.005	0.004 (formaldehyde)
Internal combustion Generators	0.46	0.26	0.26	2.3	14.56	0.41	3.87	753.39	0.007	0.004 (benzene)
Crusher Fuel Combustion	<del>4.09</del> <b>NA</b>	<del>4.09</del> <b>NA</b>	<del>4.09</del> <b>NA</b>	<del>3.82</del> <b>NA</b>	<del>58.14</del> <b>NA</b>	<del>4.75</del> <b>NA</b>	<del>12.52</del> <b>NA</b>	2,169.83	<del>0.05</del> <b>NA</b>	<del>0.02</del> (Formaldehyde) <b>NA</b>
"Worst Case" Emissions"	<del>187.38</del> <b>183.29</b>	<del>81.97</del> <b>77.88</b>	<del>91.41</del> <b>87.32</b>	<del>90.00</del> <b>90.00</b>	<del>99.12</del> <b>93.01</b>	<del>21.52</del> <b>16.42</b>	<del>81.76</del> <b>69.23</b>	<del>37,835.23</del> <b>62,608.39</b>	<del>8.06</del> <b>8.56</b>	<del>7.21</del> <b>7.30</b> (HCl)
<b>Fugitive Emissions</b>										
Asphalt Load-Out, Silo Filling, and On-Site Yard	0.55	0.55	0.55	0	0	8.57	1.44	0	0.14	0.04 (formaldehyde)
Material Storage Piles	2.56	0.89	0.89	0	0	0	0	0	0	0
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	35.50	9.05	0.90	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	60.55	0	0	15.79	5.45 (Xylene)
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	neg	0	neg	neg	neg
Total Fugitive Emissions	57.71	17.82	8.38	0	0	69.12	1.44	0	15.94	5.45 (Xylene)
<b>Total PTE of Proposed Revision</b>										
	<del>245.0</del> <b>241</b>	<del>99.79</del> <b>95.70</b>	<del>99.79</del> <b>95.70</b>	<del>90.0</del> <b>90.0</b>	<del>99.12</del> <b>93.01</b>	<del>90.29</del> <b>85.54</b>	<del>83.20</del> <b>70.67</b>	<del>34,835.23</del> <b>62,608.39</b>	<del>24.0</del> <b>24.50</b>	<del>7.21</del> <b>7.30</b> (HCl)

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)									
	PM	PM <sub>10</sub> *	PM <sub>2.5</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs** as CO <sub>2</sub> e	Total HAPs	Worst Single HAP
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
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". ** The 100,000 CO <sub>2</sub> e 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										

The table below summarizes the potential to emit of the entire source after issuance of this revision with bold and strike removed.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)									
	PM	PM <sub>10</sub> *	PM <sub>2.5</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs** as CO <sub>2</sub> e	Total HAPs	Worst Single HAP
<b>Ducted/Ductable Emissions</b>										
Dryer Fuel Combustion (worst case)	36.12	28.78	28.78	64.00	76.99	4.54	34.04	58,030.58	8.55	7.30 (HCl)
Dryer/Mixer (Process)	182.69	77.38	86.82	29.00	27.5	16.0	65.00	16,626	5.33	1.55 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	18.50	0	0	0	0	0	-
Hot Oil Heater Fuel Combustion (worst case)	0.15	0.24	0.24	5.20	1.46	0.01	0.37	1,654.60	0.005	0.004 (formaldehyde)
Internal combustion Generators	0.46	0.26	0.26	2.3	14.56	0.41	3.87	753.39	0.007	0.004 (benzene)
Crusher Fuel Combustion	NA	NA	NA	NA	NA	NA	NA	2,169.83	NA	NA
"Worst Case" Emissions <sup>α</sup>	183.29	77.88	87.32	90.00	93.01	16.42	69.23	62,608.39	8.56	7.30 (HCl)
<b>Fugitive Emissions</b>										
Asphalt Load-Out, Silo Filling, and On-Site Yard	0.55	0.55	0.55	0	0	8.57	1.44	0	0.14	0.04 (formaldehyde)
Material Storage Piles	2.56	0.89	0.89	0	0	0	0	0	0	0
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	35.50	9.05	0.90	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	60.55	0	0	15.79	5.45 (Xylene)
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	neg	0	neg	neg	neg
Total Fugitive Emissions	57.71	17.82	8.38	0	0	69.12	1.44	0	15.94	5.45 (Xylene)

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)									
	PM	PM <sub>10</sub> *	PM <sub>2.5</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs** as CO <sub>2</sub> e	Total HAPs	Worst Single HAP
Total PTE of Proposed Revision	<b>241</b>	<b>95.70</b>	<b>95.70</b>	<b>90.0</b>	<b>93.01</b>	<b>85.54</b>	<b>70.67</b>	<b>62,608.39</b>	<b>24.50</b>	<b>7.30</b> (HCl)
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
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". ** The 100,000 CO <sub>2</sub> e 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										

See Appendix A of the ATSD for the detailed limited PTE after the removal of PTE of Crusher.

- (2) The removal of the PTE of the crusher has allowed source to increase the amount of fuel oil limits, gas limit, SO<sub>2</sub> emissions, NO<sub>x</sub> emissions, HCl emissions. Therefore, Section D.1 and report form have been revised as follows:

D.1.3 FESOP Limits: SO<sub>2</sub>, NO<sub>x</sub>, and HAPs [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-4.1]

.....

(b) Single Fuel and Slag Usage Limitations:

- (1) 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:
- (A) Natural gas usage in the dryer/mixer burner shall not exceed ~~325~~ **810.4** million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.
  - (B) No. 2 fuel oil usage in the dryer/mixer burner shall not exceed ~~1,695,243~~ **1,802,942** gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
  - (C) Propane usage in the dryer/mixer burner shall not exceed ~~4,730,811~~ **9,073,204** gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
  - (D) Waste oil usage in the dryer/mixer burner shall not exceed ~~1,091,721~~ **1,106,657** gallons per twelve (12) consecutive month period, with compliance determined at the end of each month; and
  - (E) 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.

- (2) When combusting only one type of fuel in the generators, the usage of distillate fuel #2 in the generator shall not exceed 65,000 gallons per consecutive twelve (12) month period, with compliance determined at the end of each month;

Note: The source is only permitted to burn the above-mentioned fuels in the associated emission units.

(c) Multiple Fuel and Slag Usage Limitation:

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

- (1) SO<sub>2</sub> emissions from the dryer/mixer burner and generators, combined, shall not exceed ~~80.98~~ **84.80** tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) NO<sub>x</sub> emissions from the dryer/mixer burner and generators, combined, shall not exceed ~~39.52~~ **91.55** tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (3) HCl emissions from the dryer/mixer burner shall not exceed ~~7.24~~ **7.30** tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

.....

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

FESOP Quarterly Report

Source Name: Milestone Contractors, L.P.  
Current Source Address: 3255 West 650 South, Williamsport, Indiana 47993  
FESOP Permit No.: F 111-23687-03273  
Facility: Dryer/Mixer Burner and Generators  
Parameter: Fuel & Slag Usage / SO<sub>2</sub>, and NO<sub>x</sub> emissions

Emission Limits: Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed ~~80.98~~ **84.80** tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.11(a).  
Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed ~~39.52~~ **91.55** tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.11(b).  
Hydrogen Chloride (HCl) emissions shall not exceed ~~7.24~~ **7.30** tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.11(c).

Fuel & Slag Limits: When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner, and generators 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)
Dryer/Mixer Burner	
Natural Gas (million cubic feet)	<del>325.0</del> <b>810.4</b>
No. 2 Distillate Fuel Oil (gallons)	<del>1,695,243</del> <b>1,802,942</b>
Waste Oil (gallons)	<del>1,091,721</del> <b>1,106,657</b>
Propane (gallons)	<del>4,730,811</del> <b>9,073,204</b>
No. 2 Distillate Fuel Oil in generators (gallons)	65,000
Blast Furnace (tons)	50,000

.....

- (3) The description of two generators has been revised to remove the kW rating since this information is not used in the PTE calculation or rule applicability. In addition, both generators have been added to the description box of Section D.1.

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

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

- (m) one (1) Genset ~~500 kW~~ No. 2 distillate fuel oil fired reciprocating internal combustion generator, constructed in 1984, identified as emission unit 14, rated at 5.786 MMBtu per hour, exhausting at two (2) stacks, identified as S-5A and S-5B;

Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, this is considered an affected facility.

- (n) one (1) Genset ~~40 kW~~ No. 2 distillate fuel oil fired reciprocating internal combustion, constructed in 1992, identified as emission unit 15, rated at 0.41 MMBtu per hour, exhausting at one (1) stack, identified as S-6;

Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, this is considered an affected facility.

SECTION D.1

Emissions Unit Description:  
 .....

- (m) one (1) Genset No. 2 distillate fuel oil fired reciprocating internal combustion generator, constructed in 1984, identified as emission unit 14, rated at 5.786 MMBtu per hour, exhausting at two (2) stacks, identified as S-5A and S-5B;**

**Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, this is considered an affected facility.**

- (n) one (1) Genset No. 2 distillate fuel oil fired reciprocating internal combustion, constructed in 1992, identified as emission unit 15, rated at 0.41 MMBtu per hour, exhausting at one (1) stack, identified as S-6;**

**Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, 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.)

- (4) IDEM has decided to correct the citations to the compliance demonstration for the SO<sub>2</sub> emissions for fuel oil and slag. These changes are not changes to the underlying provisions except the citations only, compliance still shall be demonstrated on a thirty (30) days calendar-month average.

**D.1.9 Sulfur Dioxide (SO<sub>2</sub>) Emissions and Sulfur Content**

*Fuel Oil*

- (a) **Pursuant to 326 IAC 3-7-4 and 326 IAC 2-8-4,** Compliance with the fuel limitations established in Conditions D.1.3(a)(1), D.1.3(a)(2), D.1.3(a)(5) and D.1.5, 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.

.....

*Blast Furnace Slag*

- (b) **Pursuant to 326 IAC 2-8-4,** Compliance with the Blast Furnace slag limitation established in Condition D.1.3(a)(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

.....

*Steel Slag*

- (c) **Pursuant to 326 IAC 2-8-4,** Compliance with the steel slag limitations established in Condition D.1.3(a)(8) 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.

- (5) The citation for the crusher and screener has been corrected for typographical error in the permit as follows:

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

**IDEM Contact**

- (a) Questions regarding this proposed First Significant Permit Revision No. 171-31109-03273 can be directed to Ms. Renee Traivaranon at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5615 or toll free at 1-800-451-6027 extension 4-5615.
- (b) A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.idem.in.gov](http://www.idem.in.gov)

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**Asphalt Plant Maximum Capacity - Drum Mix**

Maximum Hourly Asphalt Production =	324	ton/hr										
Maximum Annual Asphalt Production =	2,838,240	ton/yr										
Maximum Annual Blast Furnace Slag Usage =	1,192,061	ton/yr	1.50	% sulfur								
Maximum Annual Steel Slag Usage =	1,192,061	ton/yr	0.66	% sulfur								
Maximum Dryer Fuel Input Rate =	102.0	MMBtu/hr										
Natural Gas Usage =	894	MMCF/yr										
No. 2 Fuel Oil Usage =	6,382,286	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 =	9,873,149	gal/yr, and	0.20	gr/100 ft3 sulfur								
Butane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur								
Used/Waste Oil Usage =	6,382,286	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead		
Distillate Fuel Oil Usage (generators only) =	387,693	gal/yr, and	0.50	% sulfur								
Distillate Fuel Oil Usage (Telex crusher only) =	192,464	gal/yr, and	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 NOx Dryer/Mixer Emission Factor =	0.055	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**

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)										
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO2e	Total HAPs	Worst Case HAP	
<b>Ducted Emissions</b>											
Dryer Fuel Combustion (worst case)	208.32	166.00	166.00	351.82	84.88	4.94	37.53	72,123.59	45.74	42.12 (hydrogen chloride)	
Dryer/Mixer (Process)	39,735.36	9,224.28	2,128.68	82.31	78.05	45.41	184.49	47,188.58	15.13	4.40 (formaldehyde)	
Dryer/Mixer Slag Processing (worst case)	0	0	0	441.06	0	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.15	0.24	0.24	5.20	1.46	0.01	0.37	1,654.60	0.005	0.004 (formaldehyde)	
Genset Generators Fuel Combustion	2.71	1.56	1.56	13.70	86.84	2.44	23.07	4,493.59	0.043	0.021 (benzene)	
Telex Crusher Fuel Combustion*	NA	NA	NA	NA	NA	NA	NA	2,169.83	NA	NA	
<b>Worst Case Emissions**</b>	<b>39,738.22</b>	<b>9,226.08</b>	<b>2,130.48</b>	<b>811.79</b>	<b>173.19</b>	<b>47.87</b>	<b>207.92</b>	<b>80,441.61</b>	<b>45.78</b>	<b>42.12 (hydrogen chloride)</b>	
<b>Fugitive Emissions</b>											
Asphalt Load-Out, Silo Filling, On-Site Yard	1.57	1.57	1.57	0	0	24.31	4.09	0	0.41	0.13 (formaldehyde)	
Material Storage Piles	2.56	0.89	0.89	0	0	0	0	0	0	0	
Material Processing and Handling	9.17	4.34	0.66	0	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	45.03	16.45	16.45	0	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	100.79	25.69	2.57	0	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	34,108.55	0	0	8,896.77	3,069.77 (xylenes)	
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	0 (xylenes)	
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0	
<b>Total Fugitive Emissions</b>	<b>159.11</b>	<b>48.94</b>	<b>22.14</b>	<b>0</b>	<b>0</b>	<b>34,132.86</b>	<b>4.09</b>	<b>0</b>	<b>8,897.18</b>	<b>3,069.77 (xylenes)</b>	
<b>Totals Unlimited/Uncontrolled PTE</b>	<b>39,897.33</b>	<b>9,275.01</b>	<b>2,152.62</b>	<b>811.79</b>	<b>173.19</b>	<b>34,180.73</b>	<b>212.01</b>	<b>80,441.61</b>	<b>8,942.96</b>	<b>3,069.77 (xylenes)</b>	

negl = negligible N/A = not applicable.

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 applicability.

\*\* 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 Calculation:  
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/h**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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	=	324	ton/hr
Maximum Annual Asphalt Production	=	2,838,240	ton/yr
Maximum Fuel Input Rate	=	102	MMBtu/hr
Natural Gas Usage	=	894	MMCF/yr
No. 2 Fuel Oil Usage	=	6,382,286	gal/yr, and
No. 4 Fuel Oil Usage	=	0	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage	=	0	gal/yr, and
Propane Usage	=	9,873,149	gal/yr, and
Butane Usage	=	0	gal/yr, and
Used/Waste Oil Usage	=	6,382,286	gal/yr, and

	=	0.50	% sulfur
	=	0	% sulfur
	=	0	% sulfur
	=	0.20	gr/100 ft3 sulfur
	=	0	gr/100 ft3 sulfur
	=	0.75	% sulfur
	=	1.02	% ash
	=	0.200	% chlorine
	=	0.010	% lead

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	7.0	3.22	0.5	0.6	65.3	0.85	6.38	0	0	2.47	0	208.32	208.32
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	52.02	3.40	10.53	0	0	2.47	0	166.00	166.00
SO2	0.6	71.0	0	0	0.02	0	110.3	0.27	226.57	0	0	0.10	0	351.82	351.82
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	84.88	76.59	0	0	64.18	0	60.63	84.88
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.46	0.64	0	0	4.94	0	3.19	4.94
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	37.53	15.96	0	0	37.02	0	15.96	37.53
<b>Hazardous Air Pollutant</b>															
HCl							13.2							42.12	42.12
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	8.94E-05	1.79E-03	0	0			3.51E-01	0.35
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	5.36E-06	1.34E-03	0	0			negl	1.3E-03
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	4.91E-04	1.34E-03	0	0			2.97E-02	0.03
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	6.25E-04	1.34E-03	0	0			6.38E-02	0.06
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	3.75E-05		0	0			6.70E-04	6.7E-04
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.23E-04	4.02E-03	0	0			1.8E+00	1.76
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.70E-04	2.68E-03	0	0			2.17E-01	0.22
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.16E-04	1.34E-03	0	0				1.3E-03
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	9.38E-04	1.34E-03	0	0			3.51E-02	0.04
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.07E-05	6.70E-03	0	0			negl	6.7E-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				9.38E-04		0	0				9.4E-04
Bis(2-ethylhexyl)phthalate							2.2E-03							7.02E-03	7.0E-03
Dichlorobenzene	1.2E-03						8.0E-07	5.36E-04						2.55E-06	5.4E-04
Ethylbenzene			6.36E-05	6.36E-05						0	0				0
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.35E-02	1.95E-01	0	0				0.19
Hexane	1.8E+00							8.04E-01							0.80
Phenol							2.4E-03							7.66E-03	7.7E-03
Toluene	3.4E-03		6.20E-03	6.20E-03				1.52E-03		0	0				1.5E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0	0			1.25E-01	0.12
Polycyclic Organic Matter		3.30E-03													0.01
Xylene			1.09E-04	1.09E-04						0	0				0
<b>Total HAPs</b>								0.8433757	0.23	0	0	0	0	44.71	45.74

**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

**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

\*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.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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 =	324	ton/hr								
Maximum Annual Asphalt Production =	2,838,240	ton/yr								
Maximum Fuel Input Rate =	102	MMBtu/hr								
Natural Gas Usage =	894	MMCF/yr								
No. 2 Fuel Oil Usage =	6,382,286	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 =	9,873,149	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	6,382,286	gal/yr, and	0.75	% sulfur	1.02	% ash	0.200	% chlorine,	0.010	% lead

**Unlimited/Uncontrolled Emissions**

CO2e Fraction	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
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 <sub>2</sub>	1
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH <sub>4</sub>	21
N2O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N <sub>2</sub> O	310

CO2e Fraction	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)
CO2	53,683.51	71,805.21	0	0	61,707.18	0	70,282.22
CH4	1.11	2.91	0	0	2.97	0	2.85
N2O	0.98	0.83	0	0	4.44	0	0.57
Total	53,685.60	71,808.96	0	0	61,714.60	0	70,285.64
CO2e Equivalent Emissions (tons/yr)	54,011.59	72,123.59	0	0	63,146.88	0	70,520.12

<b>CO2e for Worst Case Fuel* (tons/yr)</b>
<b>72,123.59</b>

**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.

**Abbreviations**

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

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).

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

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

Maximum Hourly Asphalt Production = 324 ton/hr  
 Maximum Annual Asphalt Production = 2,838,240 ton/yr

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	28	28	28	39,735.36	39,735.36	39,735.36	39,735.36
PM10*	6.5	6.5	6.5	9,224.28	9,224.28	9,224.28	9,224.28
PM2.5*	1.5	1.5	1.5	2,128.68	2,128.68	2,128.68	2,128.68
SO2**	0.0034	0.011	0.058	4.83	15.61	82.31	82.31
NOx**	0.026	0.055	0.055	36.90	78.05	78.05	78.05
VOC**	0.032	0.032	0.032	45.41	45.41	45.41	45.41
CO***	0.13	0.13	0.13	184.49	184.49	184.49	184.49
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04			2.98E-01	0.30
Antimony	1.80E-07	1.80E-07	1.80E-07	2.55E-04	2.55E-04	2.55E-04	2.55E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	7.95E-04	7.95E-04	7.95E-04	7.95E-04
Beryllium	negl	negl	negl	negl	negl	negl	0
Cadmium	4.10E-07	4.10E-07	4.10E-07	5.82E-04	5.82E-04	5.82E-04	5.82E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	7.81E-03	7.81E-03	7.81E-03	7.81E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	3.69E-05	3.69E-05	3.69E-05	3.69E-05
Lead	6.20E-07	1.50E-05	1.50E-05	8.80E-04	2.13E-02	2.13E-02	0.02
Manganese	7.70E-06	7.70E-06	7.70E-06	1.09E-02	1.09E-02	1.09E-02	0.01
Mercury	2.40E-07	2.60E-06	2.60E-06	3.41E-04	3.69E-03	3.69E-03	3.69E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	0.09	0.09	0.09	0.09
Selenium	3.50E-07	3.50E-07	3.50E-07	4.97E-04	4.97E-04	4.97E-04	4.97E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.06	0.06	0.06	0.06
Acetaldehyde			1.30E-03			1.84	1.84
Acrolein			2.60E-05			3.69E-02	0.04
Benzene	3.90E-04	3.90E-04	3.90E-04	0.55	0.55	0.55	0.55
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.34	0.34	0.34	0.34
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	4.40	4.40	4.40	4.40
Hexane	9.20E-04	9.20E-04	9.20E-04	1.31	1.31	1.31	1.31
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.07	0.07	0.07	0.07
MEK			2.00E-05			0.03	0.03
Propionaldehyde			1.30E-04			0.18	0.18
Quinone			1.60E-04			0.23	0.23
Toluene	1.50E-04	2.90E-03	2.90E-03	0.21	4.12	4.12	4.12
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.27	1.25	1.25	1.25
Xylene	2.00E-04	2.00E-04	2.00E-04	0.28	0.28	0.28	0.28
<b>Total HAPs</b>							<b>15.13</b>
<b>Worst Single HAP</b>							<b>4.40 (formaldehyde)</b>

**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 (CO<sub>2</sub>e) Emissions from the  
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

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

Maximum Hourly Asphalt Production = 324 ton/hr  
 Maximum Annual Asphalt Production = 2,838,240 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)			CO <sub>2</sub> e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO <sub>2</sub>	33	33	33	1	46,830.96	46,830.96	46,830.96	<b>47,188.58</b>
CH <sub>4</sub>	0.0120	0.0120	0.0120	21	17.03	17.03	17.03	
N <sub>2</sub> O				310	0	0	0	
<b>Total</b>					<b>46,847.99</b>	<b>46,847.99</b>	<b>46,847.99</b>	
<b>CO<sub>2</sub>e Equivalent Emissions (tons/yr)</b>					<b>47,188.58</b>	<b>47,188.58</b>	<b>47,188.58</b>	

**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 N<sub>2</sub>O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N<sub>2</sub>O 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 CO<sub>2</sub>e (tons/yr) = Unlimited Potential to Emit CO<sub>2</sub> of "worst case" fuel (ton/yr) x CO<sub>2</sub> GWP (1) + Unlimited Potential to Emit CH<sub>4</sub> of "worst case" fuel (ton/yr) x CH<sub>4</sub> GWP (21) + Unlimited Potential to Emit N<sub>2</sub>O of "worst case" fuel (ton/yr) x N<sub>2</sub>O GWP (310).

**Abbreviations**

CO<sub>2</sub> = Carbon Dioxide

CH<sub>4</sub> = Methane

N<sub>2</sub>O = Nitrogen Dioxide

PTE = Potential to Emit

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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\* = 

1,192,061
-----------

 ton/yr 

1.50
------

 % sulfur  
 Maximum Annual Steel Slag Usage\* = 

1,192,061
-----------

 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	441.06
Steel Slag	0.0014	0.83

**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 Heaters and Tank Heaters**  
**Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate = 2.34 MMBtu/hr  
 Natural Gas Usage = 0 MMCF/yr  
 No. 2 Fuel Oil Usage = 146,417 gal/yr, and 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0	0.146	0.15
PM10/PM2.5	7.6	3.3	0	0.242	0.24
SO2	0.6	71.0	0	5.198	5.20
NOx	100	20.0	0	1.464	1.46
VOC	5.5	0.20	0	0.015	0.01
CO	84	5.0	0	0.366	0.37
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	5.6E-04	0	4.10E-05	4.1E-05
Beryllium	1.2E-05	4.2E-04	0	3.07E-05	3.1E-05
Cadmium	1.1E-03	4.2E-04	0	3.07E-05	3.1E-05
Chromium	1.4E-03	4.2E-04	0	3.07E-05	3.1E-05
Cobalt	8.4E-05		0		0
Lead	5.0E-04	1.3E-03	0	9.22E-05	9.2E-05
Manganese	3.8E-04	8.4E-04	0	6.15E-05	6.1E-05
Mercury	2.6E-04	4.2E-04	0	3.07E-05	3.1E-05
Nickel	2.1E-03	4.2E-04	0	3.07E-05	3.1E-05
Selenium	2.4E-05	2.1E-03	0	1.54E-04	1.5E-04
Benzene	2.1E-03		0		0
Dichlorobenzene	1.2E-03		0		0
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	0	4.47E-03	4.5E-03
Hexane	1.8E+00		0		0
Phenol			0		0
Toluene	3.4E-03		0		0
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		2.42E-04	2.4E-04
<b>Total HAPs =</b>			<b>0</b>	<b>5.2E-03</b>	<b>0.005</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate = 2.34 MMBtu/hr  
 Natural Gas Usage = 0 MMCF/yr  
 No. 2 Fuel Oil Usage = 146,417.14 gal/yr, 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Greenhouse Global Warming Potentials (GWP)	Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO2	120,161.84	22,501.41	1	0	1,647.30
CH4	2.49	0.91	21	0	0.07
N2O	2.2	0.26	310	0	0.02
				0	1,647.38

<b>Worse Case CO2e Emissions (tons/yr)</b>
<b>1,654.60</b>

CO2e Equivalent Emissions (tons/yr)	0	1,654.60
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**Methodology**

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.  
 Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 MMCF/1,000 MMBtu]  
 Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] \* [8,760 hrs/yr] \* [1 gal/0.140 MMBtu]  
 Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)  
 Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2  
 No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 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  
 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:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F 111 - 23687 - 03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**Emissions calculated based on output rating (hp)**

Output Horsepower Rating (hp)	430.0	Unlimited Potential Diesel Engine Oil Usage =	192,464 gal/yr
Maximum Operating Hours per Year	8760	Sulfur Content =	0.50 % sulfur
Unlimited Potential Throughput (hp-hr/yr)	3,766,800		

	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	4.09	4.09	4.09	3.82	58.14	4.75	12.52

\*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	1.23E-02	5.39E-03	3.76E-03	5.15E-04	<b>0.016</b>	1.01E-02	1.22E-03	2.21E-03

\*\*\*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.

<b>Potential Emission of Total Combined HAPs (tons/yr)</b>	<b>0.051</b>
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**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:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F 111 - 23687 - 03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	430.0
Maximum Operating Hours per Year	8760
Potential Throughput (hp-hr/yr)	3,766,800

Diesel Engine Oil Usage <sup>1</sup> =	192,464	gal/yr
Sulfur Content =	0.50	% sulfur

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO <sub>2</sub>	1
Methane	CH <sub>4</sub>	21
Nitrous oxide	N <sub>2</sub> O	310

	Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Emission Factor in lb/kgal	22,472.92	0.91	0.18
Potential Emission in tons/yr	2,162.62	0.09	0.02
Summed Potential Emissions in tons/yr	2,162.72		
CO <sub>2</sub> e Equivalent Emissions (tons/yr)	<b>2,169.83</b>		

**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 CO<sub>2</sub> 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 CH<sub>4</sub> and N<sub>2</sub>O from 40 CFR Part 98 Subpart C, Table C-2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversion

for CO<sub>2</sub>: 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 CH<sub>4</sub> & N<sub>2</sub>O: 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 CO<sub>2</sub>e (tons/yr) = Unlimited Potential to Emit CO<sub>2</sub> (ton/yr) x CO<sub>2</sub> GWP (1) + Unlimited Potential to Emit CH<sub>4</sub> (ton/yr) x CH<sub>4</sub> GWP (21) + Unlimited Potential to Emit N<sub>2</sub>O (ton/yr) x N<sub>2</sub>O GWP (310).

**Appendix A.1: Unlimited Emission Calculations  
Criteria Pollutant and Hazardous Air Pollutant (HAP) Emissions  
Generator**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**A. Emissions calculated based on heat input capacity (MMBtu/hr)**

Heat Input Capacity ***	6.2	MMBtu/hr	Unlimited Potential generator Oil Usage =	387,693	gal/yr
Maximum Hours Operated per Year	8760		Sulfur Content (S) of Fuel	0.50	% by weight
Potential Throughput	54,277	MMBtu/yr			

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.10	0.0573	0.0573	0.505 (1.01S)	3.2 **see below	0.09	0.85
Potential Emission in tons/yr	2.71	1.56	1.56	13.70	86.84	2.44	23.07

\*No information was given regarding which method was used to determine the PM emission factor or whether condensable PM is included. The PM10 emission factor is filterable and condensable PM10 combined. The PM2.5 emissions were assumed to be equal to PM10.

\*\*NOx emissions: uncontrolled = 3.2 lb/MMBtu.

\*\*\* Two generators rated at 5.786 MMBtu/hr and 0.41 MMBtu/hr

**Hazardous Air Pollutants (HAPs)**

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/MMBtu	7.76E-04	2.81E-04	1.93E-04	7.89E-05	2.52E-05	7.88E-06	2.12E-04
Potential Emission in tons/yr	0.021	0.008	0.005	2.14E-03	6.84E-04	2.14E-04	0.006

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

<b>Potential Emission of Total HAPs (tons/yr)</b>	<b>0.043</b>
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**Notes**

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4

To form a conservative estimate, the fuel heating value taken from AP 42 Appendix A (09/85), page A-5, is 140,000 Btu/gal for No. 2 Distillate Fuel oil.

**Methodology**

Potential Throughput (MMBtu/yr) = [Heat Input Capacity (MMBtu/hr)] \* [Maximum Hours Operated per Year]

Unlimited Potential Diesel Engine Oil Usage (gal/yr) = [Potential Throughput (MMBtu/yr)] / (140,000 Btu/gal \* 1 MMBtu / 1,000,000 Btu)]

Potential Emission (tons/yr) = [Potential Throughput (MMBtu/yr)] \* [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]

**Appendix A.1: Unlimited Emissions Calculations:  
Greenhouse Gas (CO2e) Emissions from the  
Generator**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**Emissions calculated based on output rating (hp)**

Heat Input Capacity *	6.2	MMBtu/hr	Generator Oil Usage <sup>1</sup> =	387,693	gal/yr
Maximum Hours Operated per Year	8760		Sulfur Content =	0.50	% sulfur
Potential Throughput	54,277	MMBtu/yr			

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO <sub>2</sub>	1
Methane	CH <sub>4</sub>	21
Nitrous oxide	N <sub>2</sub> O	310

	Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	CO2	CH4	N2O
Emission Factor in lb/MMBtu	1.65E+02	8.10E-03	1.32E-03
Potential Emission in tons/yr	4,477.85	2.20E-01	3.59E-02
Summed Potential Emissions in tons/yr	4,478.10		
CO2e Equivalent Emissions (tons/yr)	<b>4,493.59</b>		

**Notes**

\* **Two generators, rated at 5.786 MMBtu/hr and 0.41 MMBtu/hr.**

Constant: 1 kilogallon (kgal) = 1000 gallons (gal)

To form a conservative estimate, the fuel heating value taken from AP 42 Appendix A (09/85), page A-5, is 140,000 Btu/gal for No. 2 Distillate Fuel oil.

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.)

Engine Oil: Emission Factor for CO2 from AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1. Emission Factors for CH4 and N2O from 40 CFR Part 98 Subpart C, Table C-2.

**Methodology**

Potential Throughput (MMBtu/yr) = [Heat Input Capacity (MMBtu/hr)] \* [Maximum Hours Operated per Year]

Unlimited Potential Diesel Engine Oil Usage (gal/yr) = [Potential Throughput (MMBtu/yr) / (140,000 Btu/gal \* 1 MMBtu /1,000,000 Btu)]

Potential Emission (tons/yr) = [Potential Throughput (MMBtu/yr)] \* [Emission Factor (lb/MMBtu)] / [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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 =	2,838,240	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.74	0.83	NA	1.57
Organic PM	3.4E-04	2.5E-04	NA	0.48	0.360	NA	0.84
TOC	0.004	0.012	0.001	5.90	17.29	1.561	24.8
CO	0.001	0.001	3.5E-04	1.91	1.675	0.500	4.09

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

PM/HAPs	0.034	0.041	0	0.075
VOC/HAPs	0.087	0.220	0.023	0.330
non-VOC/HAPs	4.5E-04	4.7E-05	1.2E-04	6.2E-04
non-VOC/non-HAPs	0.43	0.24	0.11	0.79

Total VOCs	5.55	17.29	1.5	24.3
Total HAPs	0.12	0.26	0.023	0.41
Worst Single HAP				0.126
				(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<sup>-(0.0251)(T+460)-20.43</sup>

Organic PM Ef = 0.00141(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

TOC Ef = 0.0172(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

CO Ef = 0.00558(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

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

PM/PM10 Ef = 0.000332 + 0.00105(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

Organic PM Ef = 0.00105(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

TOC Ef = 0.0504(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

CO Ef = 0.00488(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

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.  
Current Source Location: 3255 W. 650 South, Williamsport, Indiana 47993  
Permit Number: F111-23867-03273  
Revision Number: F171-31109-03273  
Reviewer: Renee Traivaranon  
Date Received: 11/4/2011

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
<b>PAH HAPs</b>										
Acenaphthene	83-32-8	PMHAP	POM	Organic PM	0.26%	0.47%	1.3E-03	1.7E-03	NA	3.0E-03
Acenaphthylene	208-96-8	PMHAP	POM	Organic PM	0.028%	0.014%	1.4E-04	5.0E-05	NA	1.9E-04
Anthracene	120-12-7	PMHAP	POM	Organic PM	0.07%	0.13%	3.4E-04	4.3E-04	NA	8.1E-04
Benzo(a)anthracene	56-55-3	PMHAP	POM	Organic PM	0.019%	0.056%	9.2E-05	2.0E-04	NA	2.9E-04
Benzo(b)fluoranthene	205-99-2	PMHAP	POM	Organic PM	0.0078%	0	3.7E-05	0	NA	3.7E-05
Benzo(k)fluoranthene	207-08-9	PMHAP	POM	Organic PM	0.0022%	0	1.1E-05	0	NA	1.1E-05
Benzo(a)fluorene	191-24-2	PMHAP	POM	Organic PM	0.0019%	0	9.2E-06	0	NA	9.2E-06
Benzo(a)pyrene	50-32-8	PMHAP	POM	Organic PM	0.0023%	0	1.1E-05	0	NA	1.1E-05
Benzo(e)pyrene	192-87-2	PMHAP	POM	Organic PM	0.0078%	0.0095%	3.8E-05	3.4E-05	NA	7.2E-05
Chrysene	218-01-9	PMHAP	POM	Organic PM	0.103%	0.21%	5.0E-04	7.6E-04	NA	1.3E-03
Dibenz(a,h)anthracene	53-70-3	PMHAP	POM	Organic PM	0.00037%	0	1.8E-06	0	NA	1.8E-06
Fluoranthene	206-44-0	PMHAP	POM	Organic PM	0.05%	0.15%	2.4E-04	NA	NA	2.4E-04
Fluorene	86-73-7	PMHAP	POM	Organic PM	0.77%	1.01%	3.7E-03	3.6E-03	NA	7.4E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PMHAP	POM	Organic PM	0.0007%	0	2.3E-06	0	NA	2.3E-06
2-Methylnaphthalene	91-57-6	PMHAP	POM	Organic PM	2.38%	5.27%	1.2E-02	1.9E-02	NA	0.031
Naphthalene	91-20-3	PMHAP	POM	Organic PM	1.25%	1.82%	6.0E-03	6.6E-03	NA	1.3E-02
Phenylene	198-55-0	PMHAP	POM	Organic PM	0.023%	0.03%	1.1E-04	1.1E-04	NA	2.1E-04
Phenanthrene	85-01-8	PMHAP	POM	Organic PM	0.81%	1.80%	3.9E-03	6.5E-03	NA	1.0E-02
Pyrene	129-00-0	PMHAP	POM	Organic PM	0.15%	0.44%	7.3E-04	1.6E-03	NA	2.3E-03
<b>Total PAH HAPs</b>							<b>0.029</b>	<b>0.041</b>	<b>NA</b>	<b>0.069</b>
<b>Other semi-volatile HAPs</b>										
Phenol		PMHAP	---	Organic PM	1.18%	0	5.7E-03	0	0	5.7E-03

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

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

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

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>			---	TOC	94%	100%	<b>5.55</b>	<b>17.29</b>	<b>1.47</b>	<b>24.31</b>
<b>non-VOC/non-HAPs</b>										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	3.8E-01	4.5E-02	1.0E-01	0.530
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	2.7E-03	9.5E-03	7.2E-04	0.013
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	4.2E-02	1.9E-01	1.1E-02	0.243
<b>Total non-VOC/non-HAPs</b>					7.30%	1.40%	<b>0.431</b>	<b>0.242</b>	<b>0.114</b>	<b>0.79</b>
<b>Volatile organic HAPs</b>										
Benzene	71-43-2	VOCHAP	---	TOC	0.052%	0.032%	3.1E-03	5.5E-03	8.1E-04	9.4E-03
Bromomethane	74-83-9	VOCHAP	---	TOC	0.006%	0.004%	5.7E-04	8.5E-04	1.5E-04	1.9E-03
2-Butanone	78-93-3	VOCHAP	---	TOC	0.049%	0.039%	2.9E-03	6.7E-03	7.6E-04	1.0E-02
Carbon Disulfide	75-15-0	VOCHAP	---	TOC	0.013%	0.016%	7.7E-04	2.8E-03	2.0E-04	3.7E-03
Chloroethane	75-03-3	VOCHAP	---	TOC	0.0021%	0.004%	1.2E-05	6.9E-04	3.3E-06	7.1E-04
Chloromethane	74-87-3	VOCHAP	---	TOC	0.015%	0.023%	8.9E-04	4.0E-03	2.3E-04	5.1E-03
Cumene	92-82-8	VOCHAP	---	TOC	0.11%	0	6.5E-03	0	1.7E-03	8.2E-03
Ethylbenzene	100-41-4	VOCHAP	---	TOC	0.28%	0.38%	1.7E-02	6.6E-03	4.4E-03	0.027
Formaldehyde	50-00-0	VOCHAP	---	TOC	0.028%	0.68%	5.2E-03	1.2E-01	1.4E-03	0.126
n-Hexane	100-54-3	VOCHAP	---	TOC	0.15%	0.10%	8.9E-03	1.7E-02	2.3E-03	0.028
Isooctane	540-84-1	VOCHAP	---	TOC	0.0018%	0.00031%	1.1E-04	5.4E-05	2.8E-05	1.9E-04
Methylene Chloride	75-09-2	non-VOCHAP	---	TOC	0	0.00027%	0	4.7E-05	0	4.7E-05
MTBE	1634-04-4	VOCHAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOCHAP	---	TOC	0.0073%	0.0054%	4.3E-04	9.3E-04	1.1E-04	1.5E-03
Tetrachloroethene	127-18-4	non-VOCHAP	---	TOC	0.0077%	0	4.5E-04	0	1.2E-04	5.7E-04
Toluene	100-98-3	VOCHAP	---	TOC	0.21%	0.62%	1.2E-02	1.1E-02	3.3E-03	0.026
1,1,1-Trichloroethane	71-55-6	VOCHAP	---	TOC	0	0	0	0	0	0
Trichloroethane	79-01-6	VOCHAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOCHAP	---	TOC	0.013%	0	7.7E-05	0	2.0E-05	9.7E-05
m,p-Xylene	1330-20-7	VOCHAP	---	TOC	0.41%	0.20%	2.4E-02	3.5E-02	8.4E-03	0.065
o-Xylene	95-47-6	VOCHAP	---	TOC	0.08%	0.057%	4.7E-03	9.9E-03	1.2E-03	1.6E-02
<b>Total volatile organic HAPs</b>					1.50%	1.30%	<b>0.089</b>	<b>0.225</b>	<b>0.023</b>	<b>0.337</b>

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

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

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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.

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

where  $E_f$  = emission factor (lb/acre/day)  
 $s$  = silt content (wt %)  
 $p$  = 125 days of rain greater than or equal to 0.01 inches  
 $f$  = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.80	0.439	0.154
Limestone	1.6	1.85	1.30	0.439	0.154
RAP	0.5	0.58	1.40	0.148	0.052
Gravel	1.6	1.85	1.20	0.406	0.142
Slag	3.8	4.40	1.00	0.803	0.281
Shingles	3.8	4.40	0.40	0.321	0.112
<b>Totals</b>				<b>2.56</b>	<b>0.89</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

$$Ef = k \cdot (0.0032) \cdot [(U/5)^{1.3} / (M/2)^{1.4}]$$
 where: Ef = Emission factor (lb/ton)

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

Ef (PM) = 2.27E-03 lb PM/ton of material handled  
 Ef (PM10) = 1.07E-03 lb PM10/ton of material handled  
 Ef (PM2.5) = 1.62E-04 lb PM2.5/ton of material handled

Maximum Annual Asphalt Production = 2,838,240 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Material Handling Throughput = 2,696,328 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	3.06	1.45	0.22
Front-end loader dumping of materials into feeder bins	3.06	1.45	0.22
Conveyor dropping material into dryer/mixer or batch tower	3.06	1.45	0.22
<b>Total (tons/yr)</b>	<b>9.17</b>	<b>4.34</b>	<b>0.66</b>

**Methodology**

The percent asphalt cement/binder provided by the source.

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

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

Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives

\*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

**Material Screening and Conveying (AP-42 Section 11.19.2)**

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	7.28	3.24
Screening	0.025	0.0087	33.70	11.73
Conveying	0.003	0.0011	4.04	1.48
<b>Unlimited Potential to Emit (tons/yr) =</b>			<b>45.03</b>	<b>16.45</b>

**Methodology**

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

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

Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)

Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2

\*Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).

\*\*Assumes PM10 = PM2.5

**Abbreviations**

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

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 660 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivanon  
**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	2,838,240	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	2,696,328	tons/yr
Maximum Asphalt Cement/Binder Throughput	141,912	tons/yr
Maximum No. 2 Fuel Oil Usage	6,382,286	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	1.2E+05	4.7E+06	300	0.057	6,839.31
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	1.2E+05	2.0E+06	300	0.057	6,839.31
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	3.9E+03	1.9E+05	300	0.06	223.98
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	3.9E+03	4.7E+04	300	0.06	223.98
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	6.7E+02	3.0E+04	300	0.06	38.30
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	6.7E+02	8.1E+03	300	0.06	38.30
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	6.4E+05	1.2E+07	300	0.057	36,478.30
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	6.4E+05	9.6E+06	300	0.057	36,478.30
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.2E+05	4.8E+06	300	0.057	6,719.32
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.2E+05	2.0E+06	300	0.057	6,719.32
<b>Total</b>					<b>1.8E+06</b>	<b>3.6E+07</b>			<b>1.0E+05</b>

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

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

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

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

Mitigated Emission Factor, $E_{ext}$	6.09	1.55	0.16	lb/mile
where P =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)		

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	20.84	5.31	0.53	13.70	3.49	0.35	6.85	1.75	0.17
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	20.84	5.31	0.53	13.70	3.49	0.35	6.85	1.75	0.17
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.683	0.174	0.02	0.449	0.114	0.01	0.224	0.057	0.01
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.683	0.174	0.02	0.449	0.114	0.01	0.224	0.057	0.01
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.117	0.030	0.00	0.077	0.020	0.00	0.038	0.010	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.117	0.030	0.00	0.077	0.020	0.00	0.038	0.010	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	111.16	28.33	2.83	73.09	18.63	1.86	36.55	9.31	0.93
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	111.16	28.33	2.83	73.09	18.63	1.86	36.55	9.31	0.93
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	20.48	5.22	0.52	13.46	3.43	0.34	6.73	1.72	0.17
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	20.48	5.22	0.52	13.46	3.43	0.34	6.73	1.72	0.17
<b>Totals</b>		<b>306.56</b>	<b>78.13</b>	<b>7.81</b>	<b>201.57</b>	<b>51.37</b>	<b>5.14</b>	<b>100.79</b>	<b>25.69</b>	<b>2.57</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 = 2,838,240 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Material Handling Throughput = 2,696,328 tons/yr  
 Maximum Asphalt Cement/Binder Throughput = 141,912 tons/yr  
 Maximum No. 2 Fuel Oil Usage = 6,382,286 gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons/trip)	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	1.2E+05	4.7E+06	300	0.057	6,839.31
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	1.2E+05	2.0E+06	300	0.057	6,839.31
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	3.9E+03	1.9E+05	300	0.057	223.98
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	3.9E+03	4.7E+04	300	0.057	223.98
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	6.7E+02	3.0E+04	300	0.057	38.30
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	6.7E+02	8.1E+03	300	0.057	38.30
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	6.4E+05	1.2E+07	300	0.057	36,476.30
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	6.4E+05	9.6E+06	300	0.057	36,476.30
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	1.2E+05	4.8E+06	300	0.057	6,719.32
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	1.2E+05	2.0E+06	300	0.057	6,719.32
<b>Total</b>					<b>1.8E+06</b>	<b>3.6E+07</b>			<b>1.0E+05</b>

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

Unmitigated Emission Factor, Ef = k \* (sL)<sup>0.91</sup> \* (W)<sup>1.02</sup> (Equation 1 from AP-42 13.2.1)

where k = 

PM	PM10	PM2.5
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<sup>2</sup> = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

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

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

Unmitigated Emission Factor, Ef = 

PM	PM10	PM2.5
0.15	0.03	0.01

 lb/mile  
 Mitigated Emission Factor, Eext = 

PM	PM10	PM2.5
0.14	0.03	0.01

 lb/mile  
 Dust Control Efficiency = 

PM	PM10	PM2.5
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)	0.51	0.10	0.02	0.47	0.09	0.02	0.23	0.05	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.51	0.10	0.02	0.47	0.09	0.02	0.23	0.05	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.017	0.003	8.2E-04	0.015	0.003	7.5E-04	0.008	1.5E-03	3.7E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.017	0.003	8.2E-04	0.015	0.003	7.5E-04	0.008	1.5E-03	3.7E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	2.8E-03	5.7E-04	1.4E-04	2.6E-03	5.2E-04	1.3E-04	1.3E-03	2.6E-04	6.4E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	2.8E-03	5.7E-04	1.4E-04	2.6E-03	5.2E-04	1.3E-04	1.3E-03	2.6E-04	6.4E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	2.71	0.54	0.13	2.48	0.50	0.12	1.24	0.25	0.06
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	2.71	0.54	0.13	2.48	0.50	0.12	1.24	0.25	0.06
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.50	0.10	0.02	0.46	0.09	0.02	0.23	0.05	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.50	0.10	0.02	0.46	0.09	0.02	0.23	0.05	0.01
<b>Totals</b>		<b>7.48</b>	<b>1.50</b>	<b>0.37</b>	<b>6.84</b>	<b>1.37</b>	<b>0.34</b>	<b>3.42</b>	<b>0.68</b>	<b>0.17</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 = 2,838,240 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Asphalt Cement/Binder Throughput = 141,912 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%	35,903.74	34,108.55
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	40,586.83	28,410.78
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	28,382.40	7,095.60
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	21,286.80	9,877.08
Other asphalt with solvent binder	25.9%	2.5%	36,755.21	918.88
<b>Worst Case PTE of VOC =</b>				<b>34,108.55</b>

**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
<b>PTE of Total HAPs (tons/yr) =</b>	<b>8,896.77</b>
<b>PTE of Single HAP (tons/yr) =</b>	<b>3,069.77 Xylenes</b>

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

	CAS#	Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
		Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
Volatile Organic HAP						
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-6%	
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%	
<b>Total Organic HAPs</b>		<b>26.08%</b>	<b>0.33%</b>	<b>1.29%</b>	<b>0.68%</b>	<b>0.19%</b>
<b>Worst Single HAP</b>		<b>9.00%</b>	<b>0.31%</b>	<b>0.50%</b>	<b>0.23%</b>	<b>0.07%</b>
		<b>Xylenes</b>	<b>Naphthalene</b>	<b>Xylenes</b>	<b>Xylenes</b>	<b>Chrysene</b>

**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/ph.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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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:

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

**Volatile Organic Compounds**

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0
Tank breathing and emptying	1.0	0
Vehicle refueling (displaced losses - controlled)	1.1	0
Spillage	0.7	0
<b>Total</b>		<b>0</b>

**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
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>0</b>
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>0 Xylenes</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**Asphalt Plant Limitations - Drum Mix**

Maximum Hourly Asphalt Production =	324	ton/hr									
Annual Asphalt Production Limitation =	1,000,000	ton/yr									
Blast Furnace Slag Usage Limitation =	50,000	ton/yr	1.50	% sulfur							
Steel Slag Usage Limitation =	1,000,000		0.66	% sulfur							
Natural Gas Limitation =	810.4	MMCF/yr									
No. 2 Fuel Oil Limitation =	1,802,942	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 =	9,073,204	gal/yr, and	0.20	gr/100 ft3 sulfur							
Butane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur							
Used/Waste Oil Limitation =	1,106,657	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead	
Generators Distillate Fuel Oil Limitation =	65,000	gal/yr, and	0.50	% sulfur							
Terex Distillate Fuel Oil Limitation =	192,464	gal/yr, and	0.50	% sulfur							
PM Dryer/Mixer Limitation =	0.365	lb/ton of asphalt production									
PM10 Dryer/Mixer Limitation =	0.155	lb/ton of asphalt production									
PM2.5 Dryer/Mixer Limitation =	0.174	lb/ton of asphalt production									
SO2 Dryer/Mixer Limitation =	0.058	lb/ton of asphalt production									
NOx Dryer/Mixer Limitation =	0.055	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 =	60.55	tons/yr									
HCl Limitation =	13.2	lb/kgal									

**Limited/Controlled Emissions**

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO <sub>2</sub> e	Total HAPs	Worst Case HAP
<b>Ducted Emissions</b>										
Dryer Fuel Combustion (worst case)	36.12	28.78	28.78	64.00	76.99	4.54	34.04	58,030.58	8.55	7.30 (hydrogen chloride)
Dryer/Mixer (Process)	182.69	77.38	86.82	29.00	27.50	16.00	65.00	16,626.00	5.33	1.55 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	18.50	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.15	0.24	0.24	5.20	1.46	0.01	0.37	1,654.60	0.005	0.004 (formaldehyde)
Genset Generators Fuel Combustion	0.46	0.26	0.26	2.30	14.56	0.41	3.87	753.39	0.007	0.004 (benzene)
Terex Crusher Fuel Combustion *	NA	NA	NA	NA	NA	NA	NA	2,169.83	NA	NA
<b>Worst Case Emissions**</b>	<b>183.29</b>	<b>77.88</b>	<b>87.32</b>	<b>90.00</b>	<b>93.01</b>	<b>16.42</b>	<b>69.23</b>	<b>62,608.39</b>	<b>8.56</b>	<b>7.30 (hydrogen chloride)</b>
<b>Fugitive Emissions</b>										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.55	0.55	0.55	0	0	8.57	1.44	0	0.14	0.04 (formaldehyde)
Material Storage Piles	2.56	0.89	0.89	0	0	0	0	0	0	0
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	35.50	9.05	0.90	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	60.55	0	0	15.79	5.45 (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
<b>Total Fugitive Emissions</b>	<b>57.71</b>	<b>17.82</b>	<b>8.38</b>	<b>0</b>	<b>0</b>	<b>69.12</b>	<b>1.44</b>	<b>0</b>	<b>15.94</b>	<b>5.45 (xylenes)</b>
<b>Totals Limited/Controlled Emissions</b>	<b>241.00</b>	<b>95.70</b>	<b>95.70</b>	<b>90.00</b>	<b>93.01</b>	<b>85.54</b>	<b>70.67</b>	<b>62,608.39</b>	<b>24.50</b>	<b>7.30 (hydrogen chloride)</b>

negl = negligible N/A = not applicable.

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

Fuel component percentages provided by the source.

\* 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 applicability.

\*\* 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

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 =	324	ton/hr
Annual Asphalt Production Limitation =	1,000,000	ton/yr
Natural Gas Limitation =	810	MMCF/yr
No. 2 Fuel Oil Limitation =	1,802,942	gal/yr, and
No. 4 Fuel Oil Limitation =	0	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and
Propane Limitation =	9,073,204	gal/yr, and
Butane Limitation =	0	gal/yr, and
Used/Waste Oil Limitation =	1,106,657	gal/yr, and

0.50	% sulfur
0	% sulfur
0	% sulfur
0.20	gr/100 ft3 sulfur
0	gr/100 ft3 sulfur
0.75	% sulfur
1.02	% ash
0.20	% chlorine
0.010	% lead

**Limited Emissions**

Criteria Pollutant	Emission Factor (units)								Limited Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	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	0.77	1.80	0	0	2.27	0	36.12	36.12	
PM10	7.6	3.3	8.3	4.72	0.5	0.6	52.02	3.08	2.97	0	0	2.27	0	28.78	28.78	
SO2	0.6	71.0	0	0	0.02	0	110.3	0.24	64.00	0	0	0.09	0	61.00	64.00	
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	76.99	21.64	0	0	58.98	0	10.51	76.99	
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.23	0.18	0	0	4.54	0	0.55	4.54	
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	34.04	4.51	0	0	34.02	0	2.77	34.04	
<b>Hazardous Air Pollutant</b>																
HCl							13.2							7.30	7.30	
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	8.10E-05	5.05E-04	0	0			6.09E-02	0.06	
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	4.86E-06	3.79E-04	0	0			negl	3.8E-04	
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	4.46E-04	3.79E-04	0	0			5.15E-03	5.1E-03	
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	5.67E-04	3.79E-04	0	0			1.11E-02	0.01	
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	3.40E-05		0	0			1.16E-04	1.2E-04	
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.03E-04	1.14E-03	0	0			3.0E-01	0.30	
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.54E-04	7.57E-04	0	0			3.76E-02	0.04	
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.05E-04	3.79E-04	0	0				3.8E-04	
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	8.51E-04	3.79E-04	0	0			6.09E-03	0.01	
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	9.72E-06	1.89E-03	0	0			negl	1.9E-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				8.51E-04		0	0				8.5E-04	
Bis(2-ethylhexyl)phthalate							2.2E-03							1.22E-03	1.2E-03	
Dichlorobenzene	1.2E-03						8.0E-07	4.86E-04						4.43E-07	4.9E-04	
Ethylbenzene			6.36E-05	6.36E-05						0	0				0	
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.04E-02	5.50E-02	0	0				0.05	
Hexane	1.8E+00							7.29E-01							0.73	
Phenol							2.4E-03							1.33E-03	1.3E-03	
Toluene	3.4E-03		6.20E-03	6.20E-03				1.38E-03		0	0				1.4E-03	
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0	0			2.16E-02	0.02	
Polycyclic Organic Matter		3.30E-03							2.97E-03	0	0				3.0E-03	
Xylene			1.09E-04	1.09E-04											0	
<b>Total HAPs</b>								<b>0.76</b>	<b>0.06</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7.75</b>	<b>8.55</b>	

**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  
 HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride  
 PAH = Polyaromatic Hydrocarbon  
 CO = Carbon Monoxide

\*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 (CO<sub>2</sub>e) Emissions from the  
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 =	324	ton/hr								
Annual Asphalt Production Limitation =	1,000,000	ton/yr								
Natural Gas Limitation =	810	MMCF/yr								
No. 2 Fuel Oil Limitation =	1,802,942	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 =	9,073,204	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	1,106,657	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead

**Limited Emissions**

CO <sub>2</sub> e Fraction	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO <sub>2</sub>	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO <sub>2</sub>	1
CH <sub>4</sub>	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH <sub>4</sub>	21
N <sub>2</sub> O	2.20	0.26	0.19	0.53	0.90	0.90	0.18	Nitrous oxide	N <sub>2</sub> O	310

CO <sub>2</sub> e Fraction	Limited Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO <sub>2</sub>	48,689.52	20,284.37	0	0	56,707.53	0	12,186.59
CH <sub>4</sub>	1.01	0.82	0	0	2.73	0	0.49
N <sub>2</sub> O	0.89	0.23	0	0	4.08	0	0.10
<b>Total</b>	<b>48,691.43</b>	<b>20,285.43</b>	<b>0</b>	<b>0</b>	<b>56,714.34</b>	<b>0</b>	<b>12,187.18</b>
CO <sub>2</sub> e Equivalent Emissions (tons/yr)	48,987.09	20,374.31	0	0	58,030.58	0	12,227.84

<b>CO<sub>2</sub>e for Worst Case Fuel* (tons/yr)</b>
<b>58,030.58</b>

**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 CO<sub>2</sub> and CH<sub>4</sub> from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N<sub>2</sub>O from AP-42 Chapter 1.4

No. 2 Fuel Oil: Emission Factors for CO<sub>2</sub> and CH<sub>4</sub> from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N<sub>2</sub>O from AP-42 Chapter 1.3

No. 4 Fuel Oil: Emission Factors for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O 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 CO<sub>2</sub> and CH<sub>4</sub> from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N<sub>2</sub>O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Propane and Butane: Emission Factors for CO<sub>2</sub> and CH<sub>4</sub> from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N<sub>2</sub>O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Waste Oil: Emission Factors for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O 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 CO<sub>2</sub>e Emissions (tons/yr) = CO<sub>2</sub> Potential Emission of "worst case" fuel (ton/yr) x CO<sub>2</sub> GWP (1) + CH<sub>4</sub> Potential Emission of "worst case" fuel (ton/yr) x CH<sub>4</sub> GWP (21) + N<sub>2</sub>O Potential Emission of "worst case" fuel (ton/yr) x N<sub>2</sub>O GWP (310).

**Abbreviations**

CH<sub>4</sub> = Methane

CO<sub>2</sub> = Carbon Dioxide

N<sub>2</sub>O = Nitrogen Dioxide

PTE = Potential to Emit

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

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

Maximum Hourly Asphalt Production = 324 ton/hr  
 Annual Asphalt Production Limitation = 1,000,000 ton/yr  
 PM Dryer/Mixer Limitation = 0.365 lb/ton of asphalt production  
 PM10 Dryer/Mixer Limitation = 0.155 lb/ton of asphalt production  
 PM2.5 Dryer/Mixer Limitation = 0.174 lb/ton of asphalt production  
 CO Dryer/Mixer Limitation = 0.130 lb/ton of asphalt production  
 VOC Dryer/Mixer Limitation = 0.032 lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	0.365	0.365	0.365	182.69	182.69	182.69	182.69
PM10*	0.155	0.155	0.155	77.38	77.38	77.38	77.38
PM2.5*	0.174	0.174	0.174	86.82	86.82	86.82	86.82
SO2**	0.003	0.011	0.058	1.70	5.50	29.00	29.00
NOx**	0.026	0.055	0.055	13.00	27.50	27.50	27.50
VOC**	0.032	0.032	0.032	16.00	16.00	16.00	16.00
CO***	0.130	0.130	0.130	65.00	65.00	65.00	65.00
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04			0.11	0.11
Antimony	1.80E-07	1.80E-07	1.80E-07	9.00E-05	9.00E-05	9.00E-05	9.00E-05
Arsenic	5.60E-07	5.60E-07	5.60E-07	2.80E-04	2.80E-04	2.80E-04	2.80E-04
Beryllium	negl	negl	negl	negl	negl	negl	0
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.05E-04	2.05E-04	2.05E-04	2.05E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	2.75E-03	2.75E-03	2.75E-03	2.75E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.30E-05	1.30E-05	1.30E-05	1.30E-05
Lead	6.20E-07	1.50E-05	1.50E-05	3.10E-04	7.50E-03	7.50E-03	7.50E-03
Manganese	7.70E-06	7.70E-06	7.70E-06	3.85E-03	3.85E-03	3.85E-03	3.85E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	1.20E-04	1.30E-03	1.30E-03	1.30E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	3.15E-02	3.15E-02	3.15E-02	0.03
Selenium	3.50E-07	3.50E-07	3.50E-07	1.75E-04	1.75E-04	1.75E-04	1.75E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0	2.00E-02	2.00E-02	0.02
Acetaldehyde			1.30E-03			0.65	0.65
Acrolein			2.60E-05			1.30E-02	0.01
Benzene	3.90E-04	3.90E-04	3.90E-04	0.20	0.20	0.20	0.20
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.12	0.12	0.12	0.12
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	1.55	1.55	1.55	1.55
Hexane	9.20E-04	9.20E-04	9.20E-04	0.46	0.46	0.46	0.46
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.02	0.02	0.02	0.02
MEK			2.00E-05			0.01	0.01
Propionaldehyde			1.30E-04			0.07	0.07
Quinone			1.60E-04			0.08	0.08
Toluene	1.50E-04	2.90E-03	2.90E-03	0.08	1.45	1.45	1.45
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.10	0.44	0.44	0.44
Xylene	2.00E-04	2.00E-04	2.00E-04	0.10	0.10	0.10	0.10

**Total HAPs** 5.33  
**Worst Single HAP** 1.55 (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 (CO<sub>2</sub>e) Emissions from the  
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

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

Maximum Hourly Asphalt Production = 324 ton/hr  
 Annual Asphalt Production Limitation = 1,000,000 ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Greenhouse Gas Global Warming Potentials (GWP)	Limited Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO <sub>2</sub> e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO <sub>2</sub>	33	33	33	1	16,500.00	16,500.00	16,500.00	16,626.00
CH <sub>4</sub>	0.0120	0.0120	0.0120	21	6.00	6.00	6.00	
N <sub>2</sub> O				310	0	0	0	
				Total	16,506.00	16,506.00	16,506.00	
CO <sub>2</sub> e Equivalent Emissions (tons/yr)					16,626.00	16,626.00	16,626.00	

**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 N<sub>2</sub>O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N<sub>2</sub>O 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 CO<sub>2</sub>e Emissions (tons/yr) = CO<sub>2</sub> Potential Emission of "worst case" fuel (ton/yr) x CO<sub>2</sub> GWP (1) + CH<sub>4</sub> Potential Emission of "worst case" fuel (ton/yr) x CH<sub>4</sub> GWP (21) + N<sub>2</sub>O Potential Emission of "worst case" fuel (ton/yr) x N<sub>2</sub>O GWP (310).

**Abbreviations**

CO<sub>2</sub> = Carbon Dioxide

CH<sub>4</sub> = Methane

N<sub>2</sub>O = Nitrogen Dioxide

PTE = Potential to Emit

## Appendix A.2: Limited Emissions Calculations Dryer/Mixer Slag Processing

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 =	1,000,000	ton/yr		0.66	% sulfur

Type of Slag	SO <sub>2</sub> Emission Factor (lb/ton)*	Limited Potential to Emit SO <sub>2</sub> (tons/yr)
Blast Furnace Slag	0.7400	18.5
Steel Slag	0.0014	0.70

### 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 SO<sub>2</sub> from Slag (tons/yr) = [(Limited Slag Usage (ton/yr)) \* [Emission Factor (lb/ton)] \* [ton/2000 lbs]

### Abbreviations

SO<sub>2</sub> = 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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate = 2.34 MMBtu/hr  
 Natural Gas Usage = 0 MMCF/yr  
 No. 2 Fuel Oil Usage = 146.417 gal/yr, and 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0	0.146	0.15
PM10/PM2.5	7.6	3.3	0	0.242	0.24
SO2	0.6	71.0	0	5.198	5.20
NOx	100	20.0	0	1.464	1.46
VOC	5.5	0.20	0	0.015	0.015
CO	84	5.0	0	0.366	0.37
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	5.6E-04	0	4.10E-05	4.1E-05
Beryllium	1.2E-05	4.2E-04	0	3.07E-05	3.1E-05
Cadmium	1.1E-03	4.2E-04	0	3.07E-05	3.1E-05
Chromium	1.4E-03	4.2E-04	0	3.07E-05	3.1E-05
Cobalt	8.4E-05		0		0
Lead	5.0E-04	1.3E-03	0	9.22E-05	9.2E-05
Manganese	3.8E-04	8.4E-04	0	6.15E-05	6.1E-05
Mercury	2.6E-04	4.2E-04	0	3.07E-05	3.1E-05
Nickel	2.1E-03	4.2E-04	0	3.07E-05	3.1E-05
Selenium	2.4E-05	2.1E-03	0	1.54E-04	1.5E-04
Benzene	2.1E-03		0		0
Dichlorobenzene	1.2E-03		0		0
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	0	4.47E-03	0.004
Hexane	1.8E+00		0		0
Phenol					0
Toluene	3.4E-03		0		0
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		2.42E-04	2.4E-04
<b>Total HAPs =</b>			<b>0</b>	<b>5.2E-03</b>	<b>0.005</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate = 

2.34
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 MMBtu/hr  
 Natural Gas Usage = 

0
---

 MMCF/yr  
 No. 2 Fuel Oil Usage = 

146,417
---------

 gal/yr, 

0.50
------

 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Greenhouse Gas Global Warming Potentials (GWP)	to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO2	120,161.84	22,501.41	1	0	1,647.30
CH4	2.49	0.91	21	0	6.68E-02
N2O	2.20	0.26	310	0	1.90E-02
<b>Total</b>				<b>0</b>	<b>1,647.38</b>

<b>Worse Case CO2e Emissions (tons/yr)</b>
<b>1,654.60</b>

CO2e Equivalent Emissions (tons/yr)		0	1,654.60
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**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:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F 111 - 23687 - 03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**Emissions calculated based on fuel usage limit (gal/yr):**

Output Horsepower Rating (hp)	430.0
Maximum Operating Hours per Year	8760
Limited Potential Throughput (hp-hr/yr)	3,766,800

Diesel Engine Oil Usage = 192,464 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	4.09	4.09	4.09	3.82	58.14	4.75	12.52

\*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	1.23E-02	5.39E-03	3.76E-03	5.15E-04	<b>1.56E-02</b>	1.01E-02	1.22E-03	2.21E-03

\*\*\*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.

<b>Potential Emission of Total Combined HAPs (tons/yr)</b>	<b>0.051</b>
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**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

<sup>1</sup>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 (CO<sub>2</sub>e) 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:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F 111 - 23687 - 03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**Emissions calculated based on fuel usage limit (gal/yr):**

Diesel Engine Oil Usage<sup>1</sup> =  gal/yr      Sulfur Content =  % sulfur

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO <sub>2</sub>	1
Methane	CH <sub>4</sub>	21
Nitrous oxide	N <sub>2</sub> O	310

	Limited Potential to Emit (tons/yr)		
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Emission Factor in lb/kgal	22,472.92	0.91	0.18
Potential Emission in tons/yr	2,162.62	0.09	0.02
Summed Potential Emissions in tons/yr	2,162.72		
CO <sub>2</sub> e Equivalent Emissions (tons/yr) *	2,169.83		

**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 CO<sub>2</sub> 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 CH<sub>4</sub> and N<sub>2</sub>O from 40 CFR Part 98 Subpart C, Table C-2, have been converted from kg/mmBtu to lb/kgal.  
Emission Factor (EF) Conversion  
for CO<sub>2</sub>: 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 CH<sub>4</sub> & N<sub>2</sub>O: 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)]

<sup>1</sup>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 CO<sub>2</sub>e emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and dryer mixer process, such that the CO<sub>2</sub>e 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 CO<sub>2</sub>e Emissions (tons/yr) = CO<sub>2</sub> Potential Emission (ton/yr) x CO<sub>2</sub> GWP (1) + CH<sub>4</sub> Potential Emission (ton/yr) x CH<sub>4</sub> GWP (21) + N<sub>2</sub>O Potential Emission (ton/yr) x N<sub>2</sub>O GWP (310).

**Appendix A.2: Limited Emission Calculations  
Criteria Pollutant and Hazardous Air Pollutant (HAP) Emissions  
Generator**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**A. Emissions calculated based on heat input capacity (MMBtu/hr)**

Generator Oil Usage Limitation = 

65,000
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 gal/yr  
 Limited Throughput = 

9,100
-------

 MMBtu/yr  
 Sulfur Content (S) of Fuel = 

0.50
------

 % by weight

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.10	0.0573	0.0573	0.505 (1.01S)	3.2 **see below	0.09	0.85
Potential Emission in tons/yr	0.46	0.26	0.26	2.30	14.56	0.41	3.87

\*No information was given regarding which method was used to determine the PM emission factor or whether condensable PM is included. The PM10 emission factor is filterable and condensable PM10 combined. The PM2.5 emissions were assumed to be equal to PM10.

\*\*NOx emissions: uncontrolled = 3.2 lb/MMBtu.

**Hazardous Air Pollutants (HAPs)**

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/MMBtu	7.76E-04	2.81E-04	1.93E-04	7.89E-05	2.52E-05	7.88E-06	2.12E-04
Potential Emission in tons/yr	<b>0.004</b>	0.001	0.001	3.59E-04	1.15E-04	3.59E-05	0.001

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

<b>Potential Emission of Total HAPs (tons/yr)</b>	<b>0.007</b>
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**Notes**

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4  
 To form a conservative estimate, the fuel heating value taken from AP 42 Appendix A (09/85), page A-5, is 140,000 Btu/gal for No. 2 Distillate Fuel oil.

**Methodology**

Limited Throughput (MMBtu/yr) = [Diesel Engine Oil Usage Limitation (gal/yr) \* (140,000 Btu/gal \* 1 MMBtu/1,000,000 Btu)]  
 Limited Emissions (tons/yr) = [Limited Throughput (MMBtu/yr)] \* [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]

**Appendix A.2: Limited Emissions Calculations  
Greenhouse Gas (CO<sub>2</sub>e) Emissions from the  
Generator**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

Emissions calculated based on output rating (hp)

Generator Oil Usage <sup>1</sup> =	65,000	gal/yr
Limited Throughput =	9,100	MMBtu/yr
Sulfur Content =	0.50	% sulfur

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO <sub>2</sub>	1
Methane	CH <sub>4</sub>	21
Nitrous oxide	N <sub>2</sub> O	310

	Limited/Uncontrolled Potential to Emit (tons/yr)		
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Emission Factor in lb/MMBtu	1.65E+02	8.10E-03	1.32E-03
Limited Potential Emission in tons/yr	750.75	3.69E-02	6.02E-03
Summed Limited Potential Emissions in tons/yr	750.79		
CO <sub>2</sub> e Equivalent Emissions (tons/yr)	<b>753.39</b>		

**Notes**

Constant: 1 kilogallon (kgal) = 1000 gallons (gal)

To form a conservative estimate, the fuel heating value taken from AP 42 Appendix A (09/85), page A-5, is 140,000 Btu/gal for No.2 Distillate Fuel oil. 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 CO<sub>2</sub> from AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1. Emission Factors for CH<sub>4</sub> and N<sub>2</sub>O from 40 CFR Part 98 Subpart C, Table C-2.

**Methodology**

Limited Throughput (MMBtu/yr) = [Diesel Engine Oil Usage Limitation (gal/yr) \* (140,000 Btu/gal \* 1 MMBtu/1,000,000 Btu)]

Limited Emissions (tons/yr) = [Limited Throughput (MMBtu/yr)] \* [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]

Limited Potential to Emit CO<sub>2</sub>e (tons/yr) = Limited Potential to Emit CO<sub>2</sub> (ton/yr) x CO<sub>2</sub> GWP (1) + Limited Potential to Emit CH<sub>4</sub> (ton/yr) x CH<sub>4</sub> GWP (21) +

Limited Potential to Emit N<sub>2</sub>O (ton/yr) x N<sub>2</sub>O GWP (310).

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 =	1,000,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.26	0.29	NA	<b>0.55</b>
Organic PM	3.4E-04	2.5E-04	NA	0.17	0.127	NA	<b>0.30</b>
TOC	0.004	0.012	0.001	2.08	6.09	0.550	<b>8.7</b>
CO	0.001	0.001	3.5E-04	0.67	0.590	0.176	<b>1.44</b>

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

<b>PM/HAPs</b>	<b>0.012</b>	<b>0.014</b>	<b>0</b>	<b>0.027</b>
<b>VOC/HAPs</b>	<b>0.031</b>	<b>0.077</b>	<b>0.008</b>	<b>0.116</b>
<b>non-VOC/HAPs</b>	<b>1.6E-04</b>	<b>1.6E-05</b>	<b>4.2E-05</b>	<b>2.2E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.15</b>	<b>0.09</b>	<b>0.04</b>	<b>0.28</b>

<b>Total VOCs</b>	<b>1.95</b>	<b>6.09</b>	<b>0.5</b>	<b>8.6</b>
<b>Total HAPs</b>	<b>0.04</b>	<b>0.09</b>	<b>0.008</b>	<b>0.14</b>
	<b>Worst Single HAP</b>			<b>0.044</b>
				<b>(formaldehyde)</b>

**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.  
 Current Source Location: 3255 W. 650 South, Williamsport, Indiana 47993  
 Permit Number: F111-23887-03273  
 Revision Number: F171-31109-03273  
 Reviewer: Renee Triverson  
 Date Received: 11/4/2011

**Organic Particulate-Based Compounds (Table 11.1-15)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
<b>PAH HAPs</b>										
Acenaphthene	83-32-9	PMHAP	POM	Organic PM	0.26%	0.47%	4.4E-04	6.0E-04	NA	1.0E-03
Acenaphthylene	208-96-8	PMHAP	POM	Organic PM	0.028%	0.014%	4.8E-05	1.8E-05	NA	6.6E-05
Anthracene	120-12-7	PMHAP	POM	Organic PM	0.07%	0.13%	1.2E-04	1.7E-04	NA	2.9E-04
Benzo(a)anthracene	56-55-3	PMHAP	POM	Organic PM	0.019%	0.056%	3.2E-05	7.1E-05	NA	1.0E-04
Benzo(b)fluoranthene	205-99-2	PMHAP	POM	Organic PM	0.0076%	0	1.3E-05	0	NA	1.3E-05
Benzo(k)fluoranthene	207-08-6	PMHAP	POM	Organic PM	0.0022%	0	3.8E-06	0	NA	3.8E-06
Benzo(g,h)perylene	191-24-2	PMHAP	POM	Organic PM	0.0015%	0	3.2E-06	0	NA	3.2E-06
Benzo(a)pyrene	50-32-8	PMHAP	POM	Organic PM	0.0023%	0	3.9E-06	0	NA	3.9E-06
Benzo(e)pyrene	192-97-2	PMHAP	POM	Organic PM	0.0078%	0.0096%	1.3E-05	1.2E-05	NA	2.5E-05
Chrysene	218-01-9	PMHAP	POM	Organic PM	0.03%	0.21%	1.8E-04	2.7E-04	NA	4.4E-04
Dibenz(a,h)anthracene	53-70-3	PMHAP	POM	Organic PM	0.00037%	0	6.5E-07	0	NA	6.5E-07
Fluoranthene	206-44-0	PMHAP	POM	Organic PM	0.05%	0.15%	8.5E-05	1.9E-04	NA	2.8E-04
Fluorene	86-73-7	PMHAP	POM	Organic PM	0.77%	1.01%	1.3E-03	1.3E-03	NA	2.6E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PMHAP	POM	Organic PM	0.00047%	0	8.0E-07	0	NA	8.0E-07
2-Methylnaphthalene	91-57-6	PMHAP	POM	Organic PM	2.38%	5.27%	4.1E-03	6.7E-03	NA	0.011
Naphthalene	91-20-3	PMHAP	POM	Organic PM	1.25%	1.82%	2.1E-03	2.3E-03	NA	4.4E-03
Perylene	198-55-0	PMHAP	POM	Organic PM	0.022%	0.03%	3.8E-05	3.8E-05	NA	7.6E-05
Phenanthrene	85-01-8	PMHAP	POM	Organic PM	0.81%	1.80%	1.4E-03	2.3E-03	NA	3.7E-03
Pyrene	129-00-0	PMHAP	POM	Organic PM	0.15%	0.44%	2.6E-04	5.6E-04	NA	8.1E-04
<b>Total PAH HAPs</b>							<b>0.010</b>	<b>0.014</b>	<b>NA</b>	<b>0.025</b>
<b>Other semi-volatile HAPs</b>										
Phenol		PMHAP	---	Organic PM	1.18%	0	2.0E-03	0	0	2.0E-03

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

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

**Abbreviations**

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

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

**Organic Volatile-Based Compounds (Table 11.1-16)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	100%	<b>1.95</b>	<b>6.09</b>	<b>0.52</b>	<b>8.57</b>
<b>non-VOC/non-HAPs</b>										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.4E-01	1.6E-02	3.6E-02	0.187
Azoxene	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	9.6E-04	3.4E-03	2.5E-04	0.005
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.5E-02	6.7E-02	3.9E-03	0.086
<b>Total non-VOC/non-HAPs</b>					7.30%	1.40%	<b>0.152</b>	<b>0.085</b>	<b>0.040</b>	<b>0.28</b>
<b>Volatile organic HAPs</b>										
Benzene	71-43-2	VOCHAP	---	TOC	0.052%	0.032%	1.1E-03	1.9E-03	2.9E-04	3.3E-03
Bromomethane	74-83-9	VOCHAP	---	TOC	0.0095%	0.0049%	2.0E-04	3.0E-04	5.3E-05	5.5E-04
2-Butanone	78-93-3	VOCHAP	---	TOC	0.049%	0.039%	1.0E-03	2.4E-03	2.7E-04	3.7E-03
Carbon Disulfide	75-15-0	VOCHAP	---	TOC	0.013%	0.016%	2.7E-04	9.7E-04	7.2E-05	1.3E-03
Chloroethane	75-00-3	VOCHAP	---	TOC	0.00021%	0.004%	4.4E-06	2.4E-04	1.2E-06	2.5E-04
Chloromethane	74-87-3	VOCHAP	---	TOC	0.015%	0.023%	3.1E-04	1.4E-03	8.3E-05	1.8E-03
Cumene	92-92-8	VOCHAP	---	Reviv.	0.11%	0	2.3E-03	0	6.1E-04	2.9E-03
Ethylbenzene	100-41-4	VOCHAP	---	TOC	0.28%	0.038%	5.8E-03	2.3E-03	1.5E-03	0.010
Formaldehyde	50-00-0	VOCHAP	---	TOC	0.088%	0.69%	1.8E-03	4.2E-02	4.8E-04	0.044
n-Hexane	100-54-3	VOCHAP	---	TOC	0.15%	0.10%	3.1E-03	6.1E-03	8.3E-04	0.010
Isocutane	540-84-1	VOCHAP	---	TOC	0.0019%	0.00031%	3.7E-05	1.9E-05	9.9E-06	6.6E-05
Methylene Chloride	75-09-2	non-VOCHAP	---	TOC	0	0.00027%	0	1.6E-05	0	1.6E-05
MTBE	1634-04-4	VOCHAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOCHAP	---	TOC	0.0073%	0.0054%	1.5E-04	3.3E-04	4.0E-05	5.2E-04
Tetrachloroethene	127-18-4	non-VOCHAP	---	TOC	0.0077%	0	1.6E-04	0	4.2E-05	2.0E-04
Toluene	100-88-3	VOCHAP	---	TOC	0.21%	0.062%	4.4E-03	3.8E-03	1.2E-03	0.009
1,1,1-Trichloroethane	71-55-6	VOCHAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOCHAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOCHAP	---	TOC	0.0013%	0	2.7E-05	0	7.2E-06	3.4E-05
m,p-Xylene	1330-20-7	VOCHAP	---	TOC	0.41%	0.20%	8.5E-03	1.2E-02	2.3E-03	0.023
p-Xylene	95-47-6	VOCHAP	---	TOC	0.08%	0.08%	1.7E-03	3.5E-03	4.4E-04	5.6E-03
<b>Total volatile organic HAPs</b>					1.50%	1.30%	<b>0.031</b>	<b>0.079</b>	<b>0.008</b>	<b>0.119</b>

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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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.

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

where  $E_f$  = emission factor (lb/acre/day)  
 $s$  = silt content (wt %)  
 $p$  = 125 days of rain greater than or equal to 0.01 inches  
 $f$  = 15% of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.80	0.439	0.154
Limestone	1.6	1.85	1.30	0.439	0.154
RAP	0.5	0.58	1.40	0.148	0.052
Gravel	1.6	1.85	1.20	0.406	0.142
Slag	3.8	4.40	1.00	0.803	0.281
Shingles	3.8	4.40	0.40	0.321	0.112
<b>Totals</b>				<b>2.56</b>	<b>0.89</b>

**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

PM2.5 = Particulate Matter (<2.5 um)

PM10 = Particulate Matter (<10 um)

PTE = Potential to Emit

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

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

where:  $E_f$  = Emission factor (lb/ton)

k (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)  
k (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)  
k (PM2.5) = 0.053 = particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)  
U = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006\*)  
M = 4.0 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)  
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 = 1,000,000 tons/yr  
Percent Asphalt Cement/Binder (weight %) = 5.0%  
Maximum Material Handling Throughput = 950,000 tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	1.08	0.51	0.08
Front-end loader dumping of materials into feeder bins	1.08	0.51	0.08
Conveyor dropping material into dryer/mixer or batch tower	1.08	0.51	0.08
<b>Total (tons/yr)</b>	<b>3.23</b>	<b>1.53</b>	<b>0.23</b>

**Methodology**

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

**Material Screening and Conveying (AP-42 Section 19.2.2)**

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	2.57	1.14
Screening	0.025	0.0087	11.88	4.13
Conveying	0.003	0.0011	1.43	0.52
<b>Limited Potential to Emit (tons/yr) =</b>			<b>15.87</b>	<b>5.80</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 = 1,000,000 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Material Handling Throughput = 950,000 tons/yr  
 Maximum Asphalt Cement/Binder Throughput = 50,000 tons/yr  
 No. 2 Fuel Oil Limitation = 1,802,942 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	4.2E+04	1.7E+06	300	0.057	2,409.70
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.2E+05	300	0.057	2,409.70
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.4E+03	6.7E+04	300	0.057	78.91
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.4E+03	1.7E+04	300	0.057	78.91
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	1.9E+02	8.4E+03	300	0.057	10.82
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.9E+02	2.3E+03	300	0.057	10.82
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	2.3E+05	4.3E+06	300	0.057	12,851.73
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	2.3E+05	3.4E+06	300	0.057	12,851.73
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	4.2E+04	1.7E+06	300	0.057	2,367.42
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.1E+05	300	0.057	2,367.42
<b>Total</b>					<b>6.2E+05</b>	<b>1.3E+07</b>			<b>3.5E+04</b>

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

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

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

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

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	7.34	1.87	0.19	4.83	1.23	0.12	2.41	0.62	0.06
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	7.34	1.87	0.19	4.83	1.23	0.12	2.41	0.62	0.06
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.240	0.061	0.01	0.158	0.040	4.0E-03	0.079	0.020	2.0E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.240	0.061	0.01	0.158	0.040	4.0E-03	0.079	0.020	2.0E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.033	0.008	8.4E-04	0.022	0.006	5.5E-04	0.011	0.003	2.8E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.033	0.008	8.4E-04	0.022	0.006	5.5E-04	0.011	0.003	2.8E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	39.16	9.98	1.00	25.75	6.56	0.66	12.88	3.28	0.33
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	39.16	9.98	1.00	25.75	6.56	0.66	12.88	3.28	0.33
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	7.21	1.84	0.18	4.74	1.21	0.12	2.37	0.60	0.06
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	7.21	1.84	0.18	4.74	1.21	0.12	2.37	0.60	0.06
<b>Totals</b>		<b>107.99</b>	<b>27.52</b>	<b>2.75</b>	<b>71.01</b>	<b>18.10</b>	<b>1.81</b>	<b>35.50</b>	<b>9.05</b>	<b>0.90</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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	=	1,000,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	=	5.0%	
Maximum Material Handling Throughput	=	950,000	tons/yr
Maximum Asphalt Cement/Binder Throughput	=	50,000	tons/yr
No. 2 Fuel Oil Limitation	=	1,802,942	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	4.2E+04	1.7E+06	300	0.057	2,409.70
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.2E+05	300	0.057	2,409.70
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.4E+03	6.7E+04	300	0.057	78.91
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.4E+03	1.7E+04	300	0.057	78.91
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	1.8E+02	8.4E+03	300	0.057	10.82
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.9E+02	2.3E+03	300	0.057	10.82
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	2.3E+05	4.3E+06	300	0.057	12,851.73
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	2.3E+05	3.4E+06	300	0.057	12,851.73
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	4.2E+04	1.7E+06	300	0.057	2,367.42
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.1E+05	300	0.057	2,367.42
<b>Total</b>					<b>6.2E+05</b>	<b>1.3E+07</b>			<b>3.5E+04</b>

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

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

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

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E_f * [1 - (p/4N)]$

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.18	0.04	0.01	0.16	0.03	0.01	0.08	0.02	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.18	0.04	0.01	0.16	0.03	0.01	0.08	0.02	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.006	0.001	2.9E-04	0.005	0.001	2.9E-04	0.003	5.4E-04	1.3E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.006	0.001	2.9E-04	0.005	0.001	2.9E-04	0.003	5.4E-04	1.3E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	8.0E-04	1.6E-04	3.9E-05	7.4E-04	1.5E-04	3.6E-05	3.7E-04	7.4E-05	1.8E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	8.0E-04	1.6E-04	3.9E-05	7.4E-04	1.5E-04	3.6E-05	3.7E-04	7.4E-05	1.8E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.96	0.19	0.05	0.87	0.17	0.04	0.44	0.09	0.02
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.96	0.19	0.05	0.87	0.17	0.04	0.44	0.09	0.02
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.18	0.04	0.01	0.16	0.03	0.01	0.08	0.02	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.18	0.04	0.01	0.16	0.03	0.01	0.08	0.02	0.00
<b>Totals</b>		<b>2.64</b>	<b>0.53</b>	<b>0.13</b>	<b>2.41</b>	<b>0.48</b>	<b>0.12</b>	<b>1.20</b>	<b>0.24</b>	<b>0.06</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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

Limited VOC Emissions from the Sum of the Liquid Binders = 60.55 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%	63.74	60.55	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	86.50	60.55	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	242.21	60.55	4.000
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	130.50	60.55	2.155
Other asphalt with solvent binder	25.9%	2.5%	2,422.12	60.55	40.0
<b>Worst Case Limited PTE of VOC =</b>				<b>60.55</b>	

**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
<b>Limited PTE of Total HAPs (tons/yr)</b>	<b>15.79</b>
<b>Limited PTE of Single HAP (tons/yr)</b>	<b>5.45 Xylenes</b>

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

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

**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 7

Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at

<http://www.aehs.com/publications/catalog/contents/tpb.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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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:

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

**Volatile Organic Compounds**

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0
Tank breathing and emptying	1.0	0
Vehicle refueling (displaced losses - controlled)	1.1	0
Spillage	0.7	0
<b>Total</b>		<b>0</b>

**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
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>0</b>	
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>0</b>	<b>Xylenes</b>

**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/tp.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)

<b>Source Description and Location</b>
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<b>Source Name:</b>	<b>Milestone Contractors, L.P. (Portable)</b>
<b>Initial Source Address:</b>	<b>235 U.S. Highway 24, Kentland, Indiana 47951</b>
<b>Current Source Location:</b>	<b>3255 W. 650 South, Williamsport, Indiana 47993</b>
<b>Current County:</b>	<b>Warren</b>
<b>SIC Code:</b>	<b>2951 (Asphalt Paving Mixtures and Blocks)</b>
<b>Operation Permit No.:</b>	<b>F 111 - 23687 - 03273</b>
<b>Operation Permit Issuance Date:</b>	<b>July 18, 2007</b>
<b>Significant Permit Revision No.:</b>	<b>171 - 31109 - 03273</b>
<b>Permit Reviewer:</b>	<b>Renee Traivaranon</b>

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 portable drum mix asphalt pavement production plant.

<b>Existing Approvals</b>
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The source was issued Second FESOP Renewal No. 111 - 23687 - 03273 on July 18, 2007. The source has since received the following approvals:

- (a) Relocation No. 171 - 30289 - 03273, issued on March 24, 2011; and
- (b) Administrative Amendment No. 111 - 25974 - 03273, issued on February 19, 2008.

<b>County Attainment Status</b>
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The source is currently located in Warren County.

Pollutant	Designation
SO <sub>2</sub>	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O <sub>3</sub>	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. <sup>1</sup>
PM <sub>10</sub>	Unclassifiable effective November 15, 1990.
NO <sub>2</sub>	Cannot be classified or better than national standards.
Pb	Not designated.
<sup>1</sup> Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM <sub>2.5</sub> .	

- (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. Warren 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) **PM<sub>2.5</sub>**  
 Warren County has been classified as attainment for PM<sub>2.5</sub>. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM<sub>2.5</sub> emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM<sub>2.5</sub> significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct PM<sub>2.5</sub> and SO<sub>2</sub> 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**  
 Warren County has been classified as attainment or unclassifiable in Indiana for all other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

**Fugitive Emissions**

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

**Status of the Existing Source**

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

Process/emission unit	Potential To Emit (tons/year)							
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	Single HAP	Total HAPs
Aggregate dryer burner <sup>(1)</sup>	41.70 <sup>(2)</sup>	54.68 <sup>(3)</sup>	82.50	20.23	82.18	34.77	9.88 (HCL)	14.77
Internal combustion generators	0.45	0.26	2.30	0.41	3.87	14.56	-	-
Hot oil heaters	0.15	0.24	5.20	0.02	0.37	1.46	-	-
Conveying / handling	4.61	2.18	-	-	-	-	-	-
Unpaved roads <sup>(4)</sup>	146.33	30.81	-	-	-	-	-	-
Storage piles	0.73	0.25	-	-	-	-	-	-
Load out and silo filling	1.57	1.57	-	22.84	3.59	-	-	-
Cold mix VOC storage <sup>(5)</sup>	-	-	-	46.49	-	-	-	-
<b>Total Emissions</b>	<b>193.23</b>	<b>90.00</b>	<b>90.00</b>	<b>90.00</b>	<b>90.00</b>	<b>50.79</b>	<b>9.88</b>	<b>14.77</b>
Title V Major Source Thresholds**	NA	100	100	100	100	100	25	10
PSD Major Source Thresholds**	250	250	250	250	250	250	NA	NA

Note: -- = negligible

These emissions are based upon F111 - 23687 - 03273 issued on July 18, 2007

- (1) Emissions represent emissions after fuel usage limitations to limit SO<sub>2</sub> emissions to 90.0 tons per year and a hot mix asphalt production limit to limit CO emissions to 90.0 tons per year to comply with 326 IAC 2-8 (FESOP).
- (2) Maximum allowable PM emissions pursuant to 326 IAC 6.5-1-2.
- (3) Allowable PM-10 emissions to comply with 326 IAC 2-8 (FESOP).
- (4) Emissions after control.
- (5) Maximum allowable VOC emissions in order 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).

<b>Description of Proposed Revision</b>
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The Office of Air Quality (OAQ) has reviewed an application, submitted by Milestone Contractors, L.P. (Milestone) on November 4, 2011, relating to the additional usage of propane and natural gas, as an additional fuel type back up for the dryer and 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. Each of these changes is intended to increase the operational flexibility of this stationary source.

- (1) This portable source consists of the following existing emission units and pollution control devices:
  - (a) one (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 324 tons per hour, equipped with one (1) re-refined waste oil fired aggregate dryer burner with a maximum rated capacity of 102 million (MM) British thermal units (Btu) per hour using No. 2 distillate fuel oil as a back-up fuel and one (1) baghouse for air pollution control, exhausting at one (1) stack, identified as S-1;
  - (b) one (1) bucket elevator, three (3) feed conveyors, and one (1) screen;
  - (c) one (1) No. 2 distillate fuel oil fired reciprocating internal combustion generator, identified as emission unit 14, rated at 5.786 MMBtu per hour, exhausting at two (2) stacks, identified as S-5A and S-5B; and
  - (d) one (1) No. 2 distillate fuel oil fired reciprocating internal combustion generator, identified as emission unit 15, rated at 0.41 MMBtu per hour, exhausting at one (1) stack, identified as S-6;
  - (e) cold-mix (stockpile mix) asphalt storage piles; and
  - (f) one (1) liquid asphalt storage tank, identified as Tank 18, with a maximum storage capacity of 20,000 gallons, exhausting to one (1) vent, identified as V-7.
- (2) This portable source also includes the following existing insignificant activities:
  - (a) one (1) No. 2 distillate fuel oil fired tank heater, identified as emission unit No. 12, rated at 1.5 MMBtu per hour, exhausting at two (2) stacks, identified as S-3A and S-3B;

- (b) one (1) No. 2 distillate fuel oil direct fired tank heater, connected to Tank 18, identified as emission unit No. 19, rated at 0.84 MMBtu per hour, exhausting to one (1) stack, identified as S-8;
- (c) one (1) liquid asphalt storage tank, identified as Tank 11, with a maximum storage capacity of 30,000 gallons, exhausting at one (1) stack, identified as V-2;
- (d) one (1) re-refined waste oil storage tank, identified as Tank 13, with a maximum storage capacity of 19,000 gallons, exhausting at one (1) stack, identified as V-4;
- (e) one (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 170 tons;
- (f) one (1) hot mix asphalt cement storage silo, with a maximum storage capacity of 70 tons;
- (g) one (1) Recycled Asphalt Pavement (RAP) feed bin;
- (h) aggregate storage piles, with a maximum storage capacity of 42,680 tons;
- (i) propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than 6.0 MMBtu per hour;
- (j) combustion source flame safety purging on startup;
- (k) a petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month;
- (l) 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;
- (m) vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (n) application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings;
- (o) degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 (parts washer using non-HAP Safety Kleen or Crystal Clean solvent);
- (p) cleaners and solvents having a vapor pressure equal to or less than 2 kPa; 15mm Hg; or 0.3 psi measured at 38 degrees C (100°F) or; having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20°C (68°); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months;
- (q) closed loop heating and cooling systems;
- (r) paved and unpaved roads and parking lots with public access; and
- (s) a laboratory as defined in 326 IAC 2-7-1(21)(D).

- (3) The following is a list of the new and/or modified emission units and pollution control devices:
- (a) one (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 324 tons per hour of raw material, approved for modification in 2012 to add blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) re-refined waste oil fired aggregate dryer burner with a maximum rated capacity of 102 million (MM) British thermal units (Btu) per hour using No. 2 distillate fuel oil, and approved for modification in 2012 to add propane and natural gas as a back-up fuel and one (1) baghouse for air pollution control, exhausting at one (1) stack, identified as S-1;
  - (b) aggregate storage piles, including Blast furnace and/or electric arc steel slag storage piles and Supplier certified asbestos-free factory seconds and/or post consumer waste shingles storage piles, with a maximum storage capacity of 42,680 tons;
  - (c) cold-mix (stockpile mix) asphalt manufacturing operation and storage piles.
  - (d) One (1) 430 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 500 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.

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.

- (4) 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 SO<sub>2</sub> 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 SO<sub>2</sub> emissions generated by the addition of blast furnace slag to the aggregate mix. Additionally, similar testing has shown that SO<sub>2</sub> 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 SO<sub>2</sub>, 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 No. 2 fuel oil and waste oil usage limits have been revised to accommodate the addition of the blast furnace slag, propane and natural gas to the permit in order to ensure compliance with the one hundred (100) ton per year FESOP threshold for SO<sub>2</sub>, 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 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. 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 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 46.49 to 60.18 tons per year.

*This is a Title I change.*

- (B) HAP emissions from fuel combustion, and the drying/mixing process, not previously accounted for in FESOP Renewal F111-23687-00112, have been calculated. No change to the permit occurred because of this update.
- (C) HAP emissions from the cold-mix asphalt production and storage, not previously accounted for in FESOP Renewal F111-23687-00112, 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 SO<sub>2</sub> 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 CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e). Therefore, CO<sub>2</sub>e emissions have been calculated for this source (see TSD Appendix A.1 for detailed calculations). Since this source previously opted to be a FESOP source, 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) PM<sub>2.5</sub> 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 PM<sub>2.5</sub> emissions. PM<sub>2.5</sub> limits have been added to the permit as necessary to ensure that PM<sub>2.5</sub> 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.*

**Enforcement Issues**

There are no pending enforcement actions related to this revision.

**Emission Calculations**

See Appendix A of this TSD for detailed emission calculations.

**Permit Level Determination – FESOP Revision**

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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Process/ Emission Unit	PTE of Proposed Revision (tons/year)									
	PM	PM <sub>10</sub> *	PM <sub>2.5</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs** as CO <sub>2</sub> e	Total HAPs	Worst Single HAP
Ducted/Ductable Emissions										
<b>Dryer Fuel Combustion</b>	180.54 <b>208.32</b>	143.85 <b>166.0</b>	<b>166.0</b>	328.37 <b>351.82</b>	76.59 <b>84.88</b>	2.98 <b>4.94</b>	15.96 <b>37.53</b>	<b>72,123.59</b>	50.32 <b>45.74</b>	39.31 <b>42.12</b> (HCl)
<b>Dryer/Mixer Slag Processing</b>	<b>0</b>	<b>0</b>	<b>0</b>	1157.11	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Crusher Fuel Combustion</b>	<b>4.09</b>	<b>4.09</b>	<b>4.09</b>	3.82	<b>58.41</b>	<b>4.75</b>	<b>12.52</b>	<b>2,169.83</b>	<b>0.05</b>	<b>0.02</b> (Formal- dehyde)
Fugitive Emissions										
Cold Mix Asphalt Production	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<del>1,861.50</del> <b>89,482.31</b>	<b>0</b>	<b>0</b>	<b>23,340</b>	<b>8,053.4</b> (Xylene)
<b>Total PTE of Proposed Revision</b>	<b>32.09</b>	<b>26.24</b>	<b>170.09</b>	<b>832.55</b>	<b>66.7</b>	<b>87,620.81</b>	<b>34.09</b>	<b>74,293.4</b>	<b>23,344.93</b>	<b>8,053.4</b> (Xylene)

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) SO<sub>2</sub> 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 ~~strike through~~ values.

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Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)												
	PM	PM <sub>10</sub> *	PM <sub>2.5</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs** as CO <sub>2</sub> e	Total HAPs	Worst Single HAP			
<b>Ducted/Ductable Emissions</b>													
Dryer Fuel Combustion (worst case)	39.74	36.63	28.40	28.40	60.18	34.77	30.88	20.23	2.37	17.74	30,257.4 1	14.77 8.00	9.887.21 (HCl)
Dryer/Mixer (Process)		182.69	77.38	86.82	29.0		27.5		16.0	65.00	16,626.0	6.79 5.33	2.041.55 (formaldehyde)
Internal combustion Generators	0.46		0.26	0.26	2.3	14.56 8.65		0.41		3.87	753.39	0.007	0.004 (benzene)
<b>Dryer/Mixer Slag Processing</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18.50</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-</b>
Hot Oil Heater Fuel Combustion (worst case)	0.15		0.24	0.24	5.20	1.46		0.01		0.37	2,404.12	0 0.005	negl 0.004(formaldehyde)
<b>Crusher Fuel Combustion</b>	<b>4.09</b>	<b>4.09</b>	<b>4.09</b>	<b>4.09</b>	<b>3.82</b>	<b>58.14</b>	<b>4.75</b>	<b>12.52</b>	<b>2,169.83</b>	<b>0.05</b>	<b>0.02(formaldehyde)</b>		
"Worst Case" Emissions <sup>α</sup>	40.34 187.38	9.58 81.97	91.41	90.00	50.79 99.12	20.66 21.17	86.41 81.71	34,835.3	14.77 8.06	9.887.21 (HCl)			
<b>Fugitive Emissions</b>													
Asphalt Load- Out, Silo Filling, and On-Site Yard	1.57 0.55	1.57 0.55	0.55	0	0	22.84 8.57	3.59 1.44	0	0.14	0.04 (formaldehyde)			
Material Storage Piles	0.36 2.56	0.13 0.89	0.89	0	0	0	0	0	0	0			
Material Processing and Handling		3.23	1.53	0.23	0	0	0	0	0	0			
Material Crushing, Screening, and Conveying	4.61	15.87	5.80	5.80	0	0	0	0	0	0			
Unpaved and Paved Roads (worst case)	146.33 35.50	30.81 9.05	0.90	0	0	0	0	0	0	0			
Cold Mix Asphalt Production	0	0	0	0	0	26.72 60.55	0	0	15.79	5.45 (Xylene)			
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	neg	0	neg	neg	neg			
Total Fugitive Emissions	150.57 57.71	33.67 17.82	0 8.38	0	0	69.34 69.12	3.59 1.44	0	14.77 15.94	9.88 5.45 (Xylene)			
Total PTE of Proposed Revision	190.91 245.0	43.18 99.79	99.79	90.0	50.79 99.12	90.0 90.29	90.0 83.20	34,835.3	14.77 24.0	9.88 7.21(HCl)			

negl = negligible      N/A = Not applicable  
 na = Not accounted for in previous permit, and not related to current revision.  
 \* 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 CO<sub>2</sub>e 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

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.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)									
	PM	PM <sub>10</sub> *	PM <sub>2.5</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs** as CO <sub>2</sub> e	Total HAPs	Worst Single HAP
<b>Ducted/Ductable Emissions</b>										
Dryer Fuel Combustion (worst case)	36.63	28.40	28.40	60.18	30.88	2.37	17.74	30,257.41	8.00	7.21 (HCl)
Dryer/Mixer (Process)	182.69	77.38	86.82	29.00	27.5	16.0	65.00	16,626.0	5.33	1.55 (formaldehyde)
Internal combustion Generators	0.46	0.26	0.26	2.3	8.65	0.41	3.87	753.39	0.007	0.004 (benzene)
<b>Dryer/Mixer Slag Processing</b>	0	0	0	18.50	0	0	0	0	0	-
Hot Oil Heater Fuel Combustion (worst case)	0.15	0.24	0.24	5.20	1.46	0.01	0.37	2,404.12	0.005	0.004 (formaldehyde)
<b>Crusher Fuel Combustion</b>	4.09	4.09	4.09	3.82	58.14	4.75	12.52	2,169.83	0.05	0.02 (formaldehyde)
"Worst Case" Emissions <sup>α</sup>	187.38	81.97	91.41	90.00	99.12	21.17	81.71	34,835.3	8.06	7.21 (HCl)
<b>Fugitive Emissions</b>										
Asphalt Load-Out, Silo Filling, and On-Site Yard	0.55	0.55	0.55	0	0	8.57	1.44	0	0.14	0.04 (formaldehyde)
Material Storage Piles	2.56	0.89	0.89	0	0	0	0	0	0	0
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	35.50	9.05	0.90	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	60.55	0	0	15.79	5.45 (Xylene)
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	neg	0	neg	neg	neg
<b>Total Fugitive Emissions</b>	<b>57.71</b>	<b>17.82</b>	<b>8.38</b>	<b>0</b>	<b>0</b>	<b>69.12</b>	<b>1.44</b>	<b>0</b>	<b>15.94</b>	<b>5.45 (Xylene)</b>
<b>Total PTE of Proposed Revision</b>	<b>245.0</b>	<b>99.79</b>	<b>99.79</b>	<b>90.0</b>	<b>99.12</b>	<b>90.29</b>	<b>83.20</b>	<b>34,835.3</b>	<b>24.0</b>	<b>7.21 (HCl)</b>

negl = negligible      N/A = Not applicable  
 na = Not accounted for in previous permit, and not related to current revision.  
 \* 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 CO<sub>2</sub>e 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

(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).

(A) In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), PM10, PM2.5, CO and VOC, emissions from the dryer/mixer process shall be limited as follows:

- (1) The amount of hot-mix asphalt processed from the aggregate mixing and drying operation shall not exceed 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from 1,264,308 tons per twelve (12) consecutive month period. This is a Title I change;*
- (2) PM10 emissions from dryer/mixer shall not exceed 0.155 pounds per ton of asphalt processed. *This is a change from 0.0385 pound PM10 per ton of asphalt processed. This is a Title I change;*
- (3) PM2.5 emissions from dryer/mixer shall not exceed 0.174 pounds per ton of asphalt processed. *This is a new requirement for the source.*
- (4) NOx emissions from the dryer/mixer shall not exceed 0.055 pounds per ton of asphalt processed. *This is an existing requirement for this source.*
- (5) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed. *This is an existing requirement for this source.*
- (6) 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, CO and VOC from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5 and VOC to less than 100 tons per 12 consecutive month period each, and shall render 326 IAC 2-7 (Part 70 Permits), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable.

Additionally, compliance with the limit in condition (5) 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.

(B) In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), SO2, NOx and HAP emissions from the dryer/mixer and generators fuel combustion shall be limited as follows:

(1) Fuel and Slag Specifications

- (i) The sulfur content of the waste fuel oil shall not exceed 0.75% by weight. *This is an existing requirement for this source.*
- (ii) The waste oil combusted shall not contain more than 0.20% chlorine. *This is an existing requirement for this source.*
- (iii) The waste oil combusted shall not contain more than 1.02% ash, and 0.01% lead. *This is a new requirement for this source. This is a Title I change.*

- (iv) The sulfur content of No. 2 fuel oil shall not exceed 0.50% by weight. *This is an existing requirement for this source.*
- (v) The sulfur content of the diesel fuel oil shall not exceed 0.50% by weight. *This is a new requirement for this source. This is a Title I change.*
- (vi) The HCl emissions shall not exceed 13.2 pounds of HCl per 1,000 gallons of waste oil burned. *This is an existing requirement for this source.*
- (vii) 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.*
- (viii) The SO<sub>2</sub> 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.*
- (ix) 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.*
- (x) The SO<sub>2</sub> 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.*

(2) Single Fuel and Slag Usage Limitations:

- (2.1) When combusting only one type of fuel per twelve (12) consecutive month period in both dryer/mixer burners, the usage of fuel shall be limited as follows:
- (i) Waste oil usage shall not exceed 1,091,721 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from 1,496,679 gallons per twelve (12) consecutive month period. This is a Title I change;*
  - (ii) No. 2 fuel oil usage shall not exceed 1,695,243 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from "every 1,000 gallons of No. 2 distillate fuel oil shall be equivalent to 712 gallons of re-refined waste oil" (which is approximaetly 2,5200,102 gallons.) This is a Title I change.*
  - (iii) Natural gas usage shall not exceed 325 million cubic feet 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.*
  - (vi) Propane usage shall not exceed 4,730,811 gallons 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 in the dryer/mixer burner. *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 SO<sub>2</sub> Limit, since unlimited usage results in a PTE SO<sub>2</sub> of less than 0.70 tons/yr (see TSD Appendix A.1, page 6 of 18). To form a conservative estimate, SO<sub>2</sub> 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).

- (2.2) When combusting only one type of fuel per twelve (12) consecutive month period in the genset generators, the usage of Distillate fuel oil #2 shall be limited as follows:

Distillate fuel oil #2 usage in the genset generators shall not exceed 65,000 gallons per consecutive twelve (12) month period, with compliance to be determined at the end of each month. *This is an existing requirement for this source.*

Note: The source is only permitted to burn the above-mentioned fuels in the associated emission units. *This is a new requirement for this source. This is a Title I change.*

(3) 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<sub>2</sub> emissions from the dryer/mixer burner and generators shall not exceed 80.98 per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new requirement for the source. This is a Title I change.*

$$SO_2 = 60.18 + 18.50 + 2.30 = 80.98$$

- (ii) NO<sub>x</sub> emissions from the dryer/mixer burner and generators, combined, shall not exceed 39.52 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.*

$$NO_x = 30.88 + 8.65 = 39.52$$

- (iii) HCl emissions from the dryer/mixer burner shall not exceed 7.21 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new limit for this source. This is a Title I change.*

- (iv) The unlimited PTE CO<sub>2</sub>e of this source is less than 100,000 tons per year. Therefore, a CO<sub>2</sub>e emissions limit is not required to allow for compliance with FESOP.

Compliance with these limits, combined with the potential to emit SO<sub>2</sub>, NO<sub>x</sub> and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO<sub>2</sub>, NO<sub>x</sub> to less than 100 tons per twelve (12) consecutive month period, any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and 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.

- (C) 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:
- (I) VOC emissions from the sum of the binders shall not exceed 60.55 tons per twelve (12) consecutive month period with compliance determined at the end of each month. *This is a change from 46.49 tons per twelve (12) consecutive month period. This is a Title I change.*
  - (II) 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. 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.
  - (III) 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 63.74 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 86.50 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.*
    - (iii) The amount of VOC solvent used in slow cure cutback asphalt shall not exceed 242.21 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 130.50 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 2,422.07 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from 1859.78 tons per twelve (12) consecutive month period. This is a Title I change.*
- (IV) When using more than one liquid binder per twelve (12) consecutive month period, VOC emissions shall be limited as follows:

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 limited to less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

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

- (1) The amount of hot-mix asphalt processed from the aggregate mixing and drying operation shall not exceed 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from 1,264,308 tons per twelve (12) consecutive month period. This is a Title I change;*
- (2) PM emissions from each dryer/mixer shall not exceed 0.365 pounds per ton of asphalt processed. *This is a change from 0.0607pound PM 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.

- (c) Emission Offset Minor Status  
All counties in Indiana have been classified as attainment or unclassifiable in Indiana for all criteria pollutants, except PM<sub>2.5</sub>. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) do not apply and are not included in the permit.
- (d) Nonattainment New Source Review  
This existing portable source is still not a major source, under 326 IAC 2-1.1-5 (Nonattainment New Source Review), because the potential to emit particulate matter with a diameter less than two and five tenths (2.5) micrometers (PM<sub>2.5</sub>), continues to be limited to less than one hundred (100) tons per year. Therefore, the requirements of 326 IAC 2-1.1-5 (Nonattainment New Source Review) still do not apply to this source, and are not included in the permit.

### Federal Rule Applicability Determination

#### *New Source Performance Standards (NSPS)*

- (a) 40 CFR 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)  
The requirements of 40 CFR 60, Subpart Kb do not apply to tank 13, petroleum fuel tank, VOC storage tank, because each tank's capacity is less than 75 m<sup>3</sup> (19,812.9 gallons). These requirements do not apply to the tank 11, tank 18, although each tank's capacity is greater than 75 m<sup>3</sup> (19,812.9 gallons) and less than 151 m<sup>3</sup> (39,889.98 gallons), but each has a pressure less than 3.5 kPa.
- (b) 40 CFR 60, Subpart OOO - Standards for Nonmetallic Mineral Processing Plants  
This existing portable drum mix asphalt plant is subject to the New Source Performance Standard for Nonmetallic Mineral Processing Plants, 40 CFR 60, Subpart OOO (30) (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) | (6) | 40 CFR 60.675(a), (c)(1)(i), (ii), (iii), (c)(3), (d), (e), (g), and (i) |
| (2) | 40 CFR 60.671                       | (7) | 40 CFR 60.676(a), (b)(1), (f), (h), (i), (j), and (k)                    |
| (3) | 40 CFR 60.672(b), (d), and (e)      | (8) | Table 1 and Table 3  |
| (4) | 40 CFR 60.673                       |     |  |
| (5) | 40 CFR 60.674(b)                    |     |  |

*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.

(c) 40 CFR 60, Subpart IIII - NSPS for Stationary Compression Ignition Internal Combustion Engines

- (1) 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:
- (i) 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).
  - (ii) 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).
  - (iii) 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 not a *nonroad engine* if it meets any of the following criteria:
- (i) The engine is used to propel a motor vehicle, an aircraft, or equipment used solely for competition.
  - (ii) 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)).

- (iii) 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 replaces 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.
- (2) The Distillate fuel oil #2 fuel-fired genset generators are not subject to the requirements of the 40 CFR 60, Subpart IIII, New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart IIII (4I) (326 IAC 12), because each is commence construction before July 11, 2005 and they have never been modified.
- (d) 40 CFR 60, Subpart JJJJ - NSPS for Stationary Spark Ignition Internal Combustion Engines
- (1) 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 for the Distillate fuel oil #2 generators, because the distillate fuel-fired generators is a compression ignition internal combustion engine and not a spark ignition internal combustion engine.
  - (2) 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 for the diesel fuel-fired portable crusher and screener (EU002), because the diesel fuel-fired portable crusher and screener is a compression ignition internal combustion engine and not a spark ignition internal combustion engine.
- (e) 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) 40 CFR 63, Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines  
(1) The fuel No.2 generators are subject the requirements of the 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (326 IAC 20-82), because each is considered an existing (construction commenced before June 12, 2006) stationary reciprocating internal combustion engine (RICE) at an area source of hazardous air pollutants (HAP). Construction of the Genset generator unit 14 commenced in 1984 and the Genset generator unit 14 with commenced in 1992.

The Genset generator unit 14 (with 500kW = 670.2 HP) is subject to the following applicable portions of the NESHAP for existing non-emergency stationary RICE (construction commenced before June 12, 2006), which has a site rating of greater than 500 brake horsepower (HP) at an area source of HAP:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(1)(iii) and (iv)
- (4) 40 CFR 63.6595(a)(1),(b), and (c)
- (5) 40 CFR 63.6603 (a)
- (6) 40 CFR 63.6604
- (7) 40 CFR 63.6605
- (8) 40 CFR 63.6612
- (9) 40 CFR 63.6615
- (10) 40 CFR 63.6620
- (11) 40 CFR 63.6625 (g) (h)
- (12) 40 CFR 63.6630
- (13) 40 CFR 63.6635
- (14) 40 CFR 63.6640(a), (b), and (e)
- (15) 40 CFR 63.6645 (a)(2), (g), and (h)
- (16) 40 CFR 63.6650
- (17) 40 CFR 63.6655
- (18) 40 CFR 63.6660
- (19) 40 CFR 63.6665
- (20) 40 CFR 63.6670
- (21) 40 CFR 63.6675
- (22) Table 2b
- (23) Table 2d (item 3)
- (24) Table 3 (item 4)
- (25) Table 4 (items 1 and 3)
- (26) Table 5 (items 1, 2, 3, 4, 5, and 6)
- (27) Table 6 (items 3, 10, and 11)
- (28) Table 7 (item 1)
- (29) Table 8

Note: 40 CFR 63, Subpart ZZZZ requires testing to demonstrate compliance with the emission limitations.

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the souce except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

- (2) The Genset generator unit 15 is subject the following applicable portions of the NESHAP for existing non-emergency stationary RICE (construction commenced before June 12,

2006), which has a site rating of less than 300 brake horsepower (HP) (40 kW = 53.6 HP) at an area source of HAP:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(1)(iii)
- (4) 40 CFR 63.6595(a)(1), (b), and (c)
- (5) 40 CFR 63.6603 (a)
- (6) 40 CFR 63.6605
- (7) 40 CFR 63.6625 (e)(4) ], (h), [(i)
- (8) 40 CFR 63.6635 (a)
- (9) 40 CFR 63.6640(a), (b), and (e)
- (10) 40 CFR 63.6645 (a)(5)
- (11) 40 CFR 63.6655 (a) (d) [(e) (3)]
- (12) 40 CFR 63.6660
- (13) 40 CFR 63.6665
- (14) 40 CFR 63.6670
- (15) 40 CFR 63.6675
- (16) Table 2d (item 1)
- (17) Table 6 (item 9)
- (18) Table 8

Note: Existing non-emergency compression ignition (CI) stationary RICE that have a site rating less than or equal to 300 brake horsepower (HP) and are located at an area source of HAP are not subject to numerical CO or formaldehyde emission limitations, but are only subject to work and management practices under Table 2d and Table 6.

- (2) 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.
- (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 portable 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, diesel fuel-fired generators, or the diesel fuel-fired portable crusher and screener, 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 generators, and diesel fuel-fired portable crusher and screener, 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 No. 2 distillate fuel oil fired heaters, because although this existing source is an area source of hazardous air pollutants (HAP), as defined in §63.2, and the heaters fires No. 2 distillate 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 AAAAAA - 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 AAAAAA (7A) (326 IAC 20), are not included in the permit, because although the portable 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.

<b>State Rule Applicability Determination</b>
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The following state rules are applicable to the proposed revision:

- (a) 326 IAC 2-8-4 (FESOP)  
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the

provisions of 326 IAC 2-8 (FESOP). See PTE of the Entire Source After Issuance of the FESOP Revision Section above.

- (b) 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))  
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will 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 PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (c) 326 IAC 2-1.1-5 (Nonattainment New Source Review)  
This modification to an existing minor portable source under 326 IAC 2-1.1-5 (Nonattainment New Source Review) will not change the minor status, because the potential to emit of PM2.5 from the entire source will still be limited to less than 100 tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (d) 326 IAC 2-3 (Emission Offset)  
All counties in Indiana have been classified as attainment or unclassifiable in Indiana for all criteria pollutants, except PM2.5. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) do not apply and are not included in the permit.
- (e) 326 IAC 2-6 (Emission Reporting)  
This source is still not subject to 326 IAC 2-6 (Emission Reporting), because it is not required to have an operating permit pursuant to 326 IAC 2-7 (Part 70); it is still not authorized to locate in Lake, Porter, or LaPorte County. Therefore, pursuant to 326 IAC 2-6-1(b), the source is still only subject to additional information requests as provided for in 326 IAC 2-6-5.
- (f) 326 IAC 5-1 (Opacity Limitations)  
This existing portable source is still authorized to relocate to all areas of the state except for Lake, Porter, and/or LaPorte County counties. Therefore, pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity continue to shall meet the following, unless otherwise stated in the 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, when the source is located in any County except Lake, Porter, LaPorte, or the areas specified in (2)(a) through (g).
  - (2) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in the following areas listed in 326 IAC 5-1-1(c):
    - (A) Clark County (Jefferson Township - Cities of Jeffersonville, Clarksville, and Oak Park);
    - (B) Dearborn County (Lawrenceburg Township - Cities of Lawrenceburg and Greendale);
    - (C) Dubois County (Bainbridge Township - the City of Jasper);
    - (D) Marion County (except the area of Washington Township east of Fall Creek and the area of Franklin Township south of Thompson Road and east of Five Points Road);
    - (E) St. Joseph County (the area north of Kern Road and east of Pine Road);

- (F) Vanderburgh County (the area included in the City of Evansville and Pigeon Township); and
  - (G) Vigo County (Indiana State University campus, 0.5 km radius around UTM Easting 464,519.00, Northing 4,369,208.00, Zone 16.
- (3) 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, when the source is located in any County.
- (g) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)  
The source continues to be subject to the requirements of 326 IAC 6-4 (Fugitive Dust Emissions Limitations). Therefore, pursuant to 326 IAC 6-4, the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
  - (h) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)  
The source continues to be subject to the requirements of 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations). Therefore, pursuant 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.
  - (i) 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.

<b>State Rule Applicability Determination - Individual Facilities</b>
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*Drum Mix Asphalt Plant*

- (a) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)  
The existing dryer burner using waste oil and distillate fuel No. and modified to add propane and natural gas is still not a source of indirect heating, as defined in 326 IAC 1-2-19 "Combustion for Indirect Heating". Therefore, the requirements of 326 IAC 6-2 do not apply, 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 "Material Handling - Slag and Recycled Shingles" section below.
- (c) 326 IAC 6.5 (PM Limitations Except Lake County)  
The 326 IAC 6.5 (PM Limitations Except Lake County) applicability is discussed in the "Material Handling - Slag and Recycled Shingles" section below.
- (d) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)  
The potential to emit SO<sub>2</sub> from the combustion with the addition of propane and natural gas in the existing dryer burner is less than twenty-five (25) tons/year, and ten (10) pounds/hour. However, the potential to emit SO<sub>2</sub> from the combustion of waste oil and No. 2 distillate fuel oil, each, is equal to or greater than twenty-five (25) tons/year, or ten (10) pounds/hour. Therefore, the requirements of 326 IAC 7-1.1 still apply, and are included in the permit.

- (e) 326 IAC 9-1 (Carbon Monoxide Emission Limits)  
This existing portable, drum asphalt pavement production plant is still not one of the source types listed in 326 IAC 9-1-2. Therefore, the requirements of 326 IAC 9-1 do not apply and are not included in the permit.
- (f) 326 IAC 10-1 (Nitrogen Oxides Control in Clark and Floyd Counties)  
This existing portable drum asphalt pavement production plant, authorized to relocate to Clark and Floyd counties, and was issued a FESOP limiting potential and actual NOx emissions to less than one hundred (100) tons per year. Therefore, the requirements of 326 IAC 10-1 do not apply, and are not included in the permit.
- (g) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category)  
The existing 102 MMBtu/hr dryer burner still does not meet the definition of an affected facility, as defined in 326 IAC 10-3-1(a), because it still has a maximum a heat input of less than two hundred fifty million (250,000,000) British thermal units per hour (MMBtu/hr); therefore, it is still not subject to this rule and the requirements are not included in the permit.
- (h) 326 IAC 10-5 (Nitrogen Oxide Reduction Program for Internal Combustion Engines (ICE))  
The existing 102 MMBtu/hr dryer burner still does not meet the definition of an affected facility, as defined in 326 IAC 10-5-2(1), because it is still an external combustion unit and not an internal combustion engine.

*Material Handling - Slag and Recycled Shingles*

- (a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)  
The existing portable 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.
- (b) 326 IAC 6.5 (PM Limitations Except Lake County)  
The existing portable drum mix asphalt pavement production plant's systems for screening, handling, storing, and weighing hot aggregate (which includes slag and recycled shingles), only have the potential to emit fugitive particulate matter (PM). Therefore, the requirements of 326 IAC 6.5 (PM Limitations Except Lake County) specifically do not apply to these activities and are not included in the permit, when this source relocates to the counties of Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne to

*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 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.

- (c) 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.

- (d) 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.
- (e) 326 IAC 10-1 (Nitrogen Oxides Control in Clark and Floyd Counties)  
Although, this existing portable source is authorized to relocate to Clark and Floyd counties, it was issued a FESOP limiting potential and actual NOx emissions to less than one hundred (100) tons per year. Additionally this source is subject to the requirements of 40 CFR 60. Therefore, the requirements of 326 IAC 10-1 still 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.
- (g) 326 IAC 10-5 (Nitrogen Oxide Reduction Program for Internal Combustion Engines (ICE))  
The diesel fuel-fired portable crusher and screener does not meet the definition of an affected engine, as defined in 326 IAC 10-5-2(1), because it is not specifically listed in the NOx SIP Call engine inventory. Therefore, the requirements of 326 IAC 10-5 (Nitrogen Oxide Reduction Program for Internal Combustion Engines (ICE)) do not apply and 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 6.5 (PM Limitations Except Lake County)  
The existing cold-mix (cutback) production operation still does not have the potential to emit particulate matter (PM). Therefore, the requirements of 326 IAC 6.5 (PM Limitations Except Lake County) still do not apply and are not included in the permit.
- (c) 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.

- (d) 326 IAC 8-5-2 (Asphalt paving rules)  
Any paving application made after January 1, 1980, is subject to the requirements of 326 IAC 8-5-2. Pursuant to this rule, no person shall cause or allow the use of cutback asphalt or asphalt emulsion containing more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:
- (a) penetrating prime coating;
  - (b) stockpile storage; and
  - (c) application during the months of November, December, January, February and March.
- (e) 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.
- (f) 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)  
This existing portable source is authorized to relocate to all areas of the state except for Lake, Porter, and/or LaPorte County counties, or in any area that is designated as extreme, severe, or serious nonattainment for any National Ambient Air Quality Standard. Additionally, the PTE VOC emissions from the entire source are limited to less than one hundred (100) tons per year, under 326 IAC 2-8. Therefore, the requirements of 326 IAC 8-7 still do not apply and are not included in the permit.
- See Appendix A.1 for the detailed calculations.
- (g) There are no other 326 IAC 8 Rules that are applicable to the cold-mix asphalt production and storage operation.

<b>Compliance Determination, Monitoring and Testing Requirements</b>
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- (a) The compliance determination requirements applicable to this proposed revision are as follows:
- (1) The slag and fuel characteristics (i.e., sulfur and chlorine content) and usage rates will be used to verify compliance with the SO<sub>2</sub>, NO<sub>x</sub> and HAPs emission limitations.
  - (2) The waste oil characteristics (i.e., ash and lead content) and usage rates will be used to verify compliance with the FESOP PM/PM<sub>10</sub>/PM<sub>2.5</sub> and HAP limitations.
  - (3) The shingle characteristics (i.e., lack of asbestos content) will be used to verify compliance with the FESOP HAP limitation.
  - (4) 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.
  - (5) The following equations will be used to determined compliance with SO<sub>2</sub>, NO<sub>x</sub> and HCl emissions from the dryer/mixer burner and generators operations:

$$SO_2 = \frac{G(E_G) + O(E_O) + P(E_P) + W(E_W) + D(E_D) + B(E_B) + T(E_T)}{2,000 \text{ lbs/ton}}$$

where:

SO<sub>2</sub> = tons of sulfur dioxide emissions for a 12-month consecutive period  
G = gallons of natural gas used in the dryer/mixer in the last 12 months  
O = gallons of No. 2 fuel oil used in the dryer/mixer in the last 12 months  
P = gallons of propane used in the dryer/mixer in the last 12 months  
W = gallons of waste oil used in the dryer/mixer in the last 12 months  
D = gallons of No. 2 fuel oil used in the genset generators in the last 12 months  
B = tons of blast furnace slag used in the dryer/mixer in the last 12 months  
T = tons of steel slag used in the in the dryer/mixer last 12 months

E<sub>G</sub> = 0.60 lb/million cubic feet of natural gas  
E<sub>O</sub> = 71.0 lb/1000 gallons of No. 2 fuel oil  
E<sub>P</sub> = 0.02 lb/1000 gallons of propane  
E<sub>W</sub> = 110.3 lb/1000 gallons of waste oil  
E<sub>D</sub> = 70.7 lb/1000 gallons of No. 2 fuel oil  
E<sub>B</sub> = 0.74 lb/ton of blast furnace slag used  
E<sub>T</sub> = 0.0014 lb/ton of steel slag used

Note: the fuel oil emission factor (E<sub>D</sub>) has been converted from 0.505 lb/MMBtu, for the purposes of this compliance calculation.

#### Methodology

S = Sulfur content of the fuel (%) = 0.50%

EF (lb/MMBtu) = [1.01S]

EF (lb/kgal) = [EF (lb/MMBtu) \* Fuel Heating Value (0.140 MMBtu/1 gallon) \*  
conversion value (1000 gal/1 kgal)]

EF (lb/kgal) = [(1.01 \* 0.50%) \* (0.140 MMBtu/1 gallon) \* (1000 gal/1 kgal)]

#### (b) Nitrogen Oxides (NOx) Emission Calculation

$$NOx = \frac{G(E_G) + O(E_O) + P(E_P) + W(E_W) + D(E_D)}{2,000 \text{ lbs/ton}}$$

where:

NO<sub>x</sub> = tons of nitrogen oxide emissions for a 12-month consecutive period;  
G = million cubic feet of natural gas used in the in the dryer/mixer last 12 months;  
O = gallons of No. 2 fuel oil used in the in the dryer/mixer last 12 months;  
P = gallons of propane used in the dryer/mixer in the last 12 months  
W = gallons of reclaimed/waste oil used in the in the dryer/mixer last 12 months.  
D = gallons of No. 2 fuel oil used in the genset generators in the last 12 months

E<sub>G</sub> = 190 lb/million cubic feet of natural gas;  
E<sub>O</sub> = 24.0 lb/1000 gallons of No. 2 fuel oil;  
E<sub>P</sub> = 13.0 lb/1000 gallons of propane  
E<sub>W</sub> = 19.0 lb/1000 gallons of waste oil.  
E<sub>D</sub> = 266 lb/1000 gallons of fuel oil.

Note: the fuel oil emission factor (E<sub>D</sub>) has been converted from 1.90 lb/MMBtu, for the purposes of this compliance calculation.

$$EF \text{ (lb/kgal)} = [EF \text{ (lb/MMBtu)} * \text{Fuel Heating Value (0.140 MMBtu/1 gallon)} * \text{conversion value (1000 gal/1 kgal)}]$$

$$EF \text{ (lb/kgal)} = [(1.90 \text{ lb/MMBtu}) * (0.140 \text{ MMBtu/1 gallon}) * (1000 \text{ gal/1 kgal})]$$

(c) HCl emissions Calculation:

$$HCl = \frac{W(E_w)}{2,000 \text{ lbs/ton}}$$

where:

HCl = tons of Hydrogen Chloride emissions for twelve (12) month consecutive period

W = gallons of waste oil used in the last 12 months

E<sub>w</sub> = 13.2 lb/1000 gallons of waste oil

(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	N/A	SO2	Within 180 days after initial use of Blast Furnace slag <sup>(1)</sup>	One time test
RAP Crusher	N/A	PM/PM10/PM2.5 (opacity/fugitives)	Within 180 days after initial use <sup>(2)</sup>	Once every five (5) years
Genset Generator unit 14	N/A	PM, NOx, CO2, HAPs	Within 180 days after initial use <sup>(3)</sup>	Once every five (5) years

(1) 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.

(2) 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.

(3) Testing is only required if the generator, and any associated control device, is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or if the emission-related settings are changed in a way that is not permitted by the manufacturer.

(c) 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.

<b>Proposed Changes</b>
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- (a) The following changes listed below are due to the proposed revision.
- (1) Section A.1 - General Information, page 5 of 45 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 portable drum mix asphalt pavement production plant, pages 5 and 25 of 45 of the permit, have been revised to update the 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 portable drum mix asphalt pavement production plant, pages 5, of 45 the permit, have been revised to include a description of diesel fuel-fired portable crusher and screener.
  - (4) Sections A.3- Insignificant Activities and D.1 - Emission Unit Operation Conditions have been revised to add a description of the new slag and recycle shingles in the aggregate storage piles. (See additional revision in the additional change.)
  - (5) Section D.1 - Sulfur Dioxide (SO<sub>2</sub>) Emissions renamed FESOP Limits: NO<sub>x</sub>, SO<sub>2</sub> and HAPs, has been revised to incorporate the new blast furnace and steel slag sulfur content (%), the new pound per ton blast furnace and steel slag emission limitations, the new blast furnace slag usage limitation (ton/yr), the new asphalt shingle usage limitation.
  - (6) Section D.1 - Testing Requirements, page 28 of 45 of the permit, has been revised to incorporate blast furnace slag SO<sub>2</sub> testing requirements.
  - (7) Section D.1 - Sulfur Dioxide Emissions and Sulfur and Chloride content, pages 28 of 45 of the permit, has been revised and renamed "D.1.9 Sulfur Dioxide (SO<sub>2</sub>) Emissions and Sulfur Content", to incorporate new compliance determination requirements for the blast furnace and steel slag limits contained in Section D.1 - FESOP Limits: NO<sub>x</sub>, SO<sub>2</sub> and HAPs.
  - (8) Section D.1, Hydrogen Chloride (HCl) Emissions and Ash, Chlorine, and Lead Content has been added to determined compliance with waste oil specification contained in the FESOP limits condition D.1.3(a)(4).
  - (9) Section D.1 - Multiple Fuel and Slag Usage Limitations, has been added to assist the Permittee to determining compliance with the FESOP NO<sub>x</sub>, SO<sub>2</sub>, and HCL limits contained in Section D.1 - FESOP Limits: NO<sub>x</sub>, SO<sub>2</sub> and HAPs using equations.
  - (10) Section D.1 - Shingle Asbestos Content, has been added to determine compliance with the FESOP Asphalt Shingle Usage Limitation contained in FESOP Limits condition D.1.3(d).
  - (11) Section D.1 - Parametric Monitoring, page 27 of 45 of the permit, has been revised to allow the Permittee the option of using the manufacturer's recommendations for the calibration frequency.

- (12) Section D.1 - Record Keeping Requirements, pages 30 through 31 of 45 of the permit, has been revised to include recordkeeping requirements for the blast furnace slag, steel slag, and recycled shingles.
  - (13) Section D.1 - Reporting Requirements, page 31 of 45 of the permit, has been revised to include reporting requirements for the blast furnace slag.
  - (14) Section D.2 - Emissions Unit Operation Conditions for the cold-mix asphalt storage piles, pages 33 through 34 of 45 of the permit, has been revised to reflect the manufacturing operations and inclusion of additional cold-mix emulsions to the process.
  - (15) A NEW Section E.2 - NSPS Requirements, 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.
  - (16) A NEW Section E.3 - NESHAP Requirements, has been added to incorporate the NESHAP 4Z requirements for the two generators.
  - (15) A NEW Section E.4 - NSPS & NESHAP Requirements, has been added to incorporate the NSPS 4I and NESHAP 4Z avoidance requirements.
  - (17) The FESOP Reporting Forms located at the back of the permit have been updated to reflect the revised limits, the addition of the blast furnace and steel slag, and the change to determining compliance using equations. Additionally, a new reporting form for documenting the residence time of the new diesel fuel-fired portable crusher and screener has been added to ensure compliance with the NSPS 4I and NESHAP 4Z avoidance requirements.
- (b) Upon further review, IDEM, OAQ has decided to make the following changes to the permit:
- (1) Section B - the rule citations in Operational Flexibility and the Preventive Maintenance Plan have been revised for clarification.
  - (2) Section C- Overall Source Limit has been revised for clarification since currently all counties in Indiana is current attainment for ozone and GHGs limit was added.
  - (3) Section C-Stack Height requirements have been removed since the asphalt operation is exempted from this rule.
  - (4) Section C Record Keeping and Reporting have been revised to clarify the Permittee's responsibility with regards to record keeping and reporting requirements.
  - (5) Sections A.2 - Emission Units and Pollution Control Equipment Summary and D.1 - Emissions Unit Operation Conditions for the portable drum mix asphalt pavement production plant, pages 5, 6, and 24 of 45 of the permit, have been revised to include emissions units associated with the drum mix asphalt pavement production plant, since these activities are also regulated by 40 CFR 60, Subpart I. These units were removed from Section A.3 - Insignificant Activities. In addition, the description of generators have been revised for better described the units, no modification has been made to these units.
  - (6) Section A.2 - Emission Units and Pollution Control Equipment Summary, pages 5 and 6 of 45 of the permit, has 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.

- (7) Existing condition D.1.1 - Particulate Matter (PM) [326 IAC 2-2], page 25 of 45 of the permit, has been revised to reflect the decreased hot-mix asphalt production limitation and increased pound per ton emission limit for PM.
- (8) Existing condition D.1.2 - Particulate Matter (PM)[326 IAC 6.5-1-2] has been renumbered as D.1.4 and revised for clarification, since at the present time this source is not located in the County listed in this rule.
- (9) Existing conditions D.1.3 - Particulate Matter Less Than 10 Microns (PM-10), D.1.7 Carbon Monoxide (CO), D.1.8 Nitrogen Oxides (NOx), and D.1.9 Volatile Organic Compounds (VOC) renamed as D.1.2 - FESOP Limits: PM10, PM2.5, SO2, NOx, VOC, and CO has been consolidated and revised to reflect the new hot-mix asphalt production limitation and new pound per ton emission limit for PM10.
- (10) Existing condition D.1.4 - Sulfur Dioxide (SO2), page 24 of 45, renumbered as condition D.1.5, has been revised for clarity and % sulfur content of fuel oils have been removed and combined to condition D.1.3 FESOP Limits: NOx, SO2 and HAPs.
- (11) Existing condition D.1.5 - Sulfur Dioxide (SO2) Emissions, and Existing condition D.1.6 - Hydrogen Chloride (HCl) have been consolidated, and revised including adding HCL emission limit and renamed as "D.1.3 - FESOP Limits: NOx, SO2 and HAPs".
- (12) Existing condition D.1.11 - Testing Requirements, page 28 of 45 of the permit, renumbered D.1.8 has been revised to incorporate the new PM2.5 testing.
- (13) Existing condition D.1.17 - Record Keeping Requirements, renumbered as condition D.1.16, 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.
- (14) Existing condition D.1.18 - Reporting Requirements, renumbered as condition D.1.17, has been revised to reflect as described above. Additionally, the word "status" has been added, since the Permittee has the obligation to document the compliance status.
- (15) Existing conditions D.1.19, D.1.20 related to NSPS requirements have been moved to a NEW Condition E.1 - NSPS Requirements, 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.
- (16) 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)]

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The Permittee owns and operates a portable drum mix asphalt pavement production plant **and cold mix asphalt production operation. Recycled asphalt pavement (RAP) is crushed on-site, and blast furnace, 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.**

Initial Source Address:	235 U.S. Highway 24, Kentland, Indiana 47951
<b>Current Source Address:</b>	<b>3255 West 650 South, Williamsport, Indiana 47993</b>
General Source Phone Number:	(317) 788-6885
SIC Code:	2951
County Location:	Warren
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 drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 324 tons per hour **of raw material, approved for modification in 2012 to add blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix**, equipped with one (1) re-refined waste oil fired aggregate dryer burner with a maximum rated capacity of 102 million (MM) British thermal units (Btu) per hour using No. 2 distillate fuel oil, **and approved for modification in 2012 to add propane and natural gas** as a back-up fuel and one (1) baghouse for air pollution control, exhausting at one (1) stack, identified as S-1;
- (b) one (1) bucket elevator, three (3) feed conveyors, and one (1) screen;
- (fc) one (1) liquid asphalt storage tank, identified as Tank 18, with a maximum storage capacity of 20,000 gallons, exhausting to one (1) vent, identified as V-7.
- (ad) **one (1) No. 2 distillate fuel oil fired tank heater, identified as emission unit No. 12, rated at 1.5 MMBtu per hour, exhausting at two (2) stacks, identified as S-3A and S-3B;**
- (be) **one (1) No. 2 distillate fuel oil direct fired tank heater, connected to Tank 18, identified as emission unit No. 19, rated at 0.84 MMBtu per hour, exhausting to one (1) stack, identified as S-8;**
- (ef) **one (1) liquid asphalt storage tank, identified as Tank 11, with a maximum storage capacity of 30,000 gallons, exhausting at one (1) stack, identified as V-2;**
- (dg) **one (1) re-refined waste oil storage tank, identified as Tank 13, with a maximum storage capacity of 19,000 gallons, exhausting at one (1) stack, identified as V-4;**
- (eh) **one (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 170 tons;**
- (fi) **one (1) hot mix asphalt cement storage silo, with a maximum storage capacity of 70 tons;**
- (gj) **one (1) Recycled Asphalt Pavement (RAP) feed bin;**
- (hk) aggregate storage piles, **including Blast furnace and/or electric arc steel slag storage piles and Supplier certified asbestos-free factory seconds and/or post consumer waste shingles storage piles**, with a maximum storage capacity of 42,680 tons;

Note: The above units in items (d) to (k) have been moved from insignificant activities, since they are parts of the asphalt operation under 40 CFR 60, subpart I.

(el) cold-mix (stockpile mix) asphalt **manufacturing operation and** storage piles.

**Above units Under 40 CFR 60, Subpart I, this asphalt plant is considered an affected source.**

(em) one (1) **Genset 500 kW** No. 2 distillate fuel oil fired reciprocating internal combustion generator, **constructed in 1984**, identified as emission unit 14, rated at 5.786 MMBtu per hour, exhausting at two (2) stacks, identified as S-5A and S-5B; ~~and~~

**Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, this is considered an affected facility.**

[ Note: The above unit is an existing unit and only description is revised for clarification.]

(en) one (1) **Genset 40 kW** No. 2 distillate fuel oil fired reciprocating internal combustion generator, **constructed in 1992**, identified as emission unit 15, rated at 0.41 MMBtu per hour, exhausting at one (1) stack, identified as S-6;

**Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, this is considered an affected facility.**

[ Note: The above unit is an existing unit and only description is revised for clarification.]

(o) **One (1) 430 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 500 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.**

**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.**

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

This portable source also includes the following insignificant activities:

- (ia) propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than 6.0 MMBtu per hour;
- (jb) combustion source flame safety purging on startup;
- (kc) a petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month;
- (ld) 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;
- (~~me~~) vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (~~mf~~) application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings;

- (eg) degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 (parts washer using non-HAP Safety Kleen or Crystal Clean solvent);
- (ph) cleaners and solvents having a vapor pressure equal to or less than 2 kPa; 15mm Hg; or 0.3 psi measured at 38 degrees C (100°F) or; having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20°C (68°); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months;
- (qi) closed loop heating and cooling systems;
- (fj) paved and unpaved roads and parking lots with public access; and
- (sk) a laboratory as defined in 326 IAC 2-7-1(21)(D).

SECTION B ————— GENERAL CONDITIONS

.....

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

- ~~(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.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  
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.~~

## SECTION B GENERAL CONDITIONS

.....

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

---

- (a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:**
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;**
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and**
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.**
- The Permittee shall implement the PMPs.**
- (b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:**
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;**
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and**
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.**

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

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

**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)(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.**

~~SECTION C SOURCE OPERATION CONDITIONS~~

~~Entire Source~~

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

~~.....~~

~~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 will also render the 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.8 — Stack Height [326 IAC 1-7]~~

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~~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.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 shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.~~

- ~~(b) — These ERPs shall be submitted for approval 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 ninety (90) days after the date of issuance of this permit.~~

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

- ~~(c) — If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.~~
- ~~(d) — These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.~~
- ~~(e) — Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.~~
- ~~(f) — 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.19 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]~~

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- ~~(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.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 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 46204-2254~~
- ~~(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) Reserved~~
- ~~(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.~~

## SECTION C SOURCE OPERATION CONDITIONS

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

.....

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

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

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e) 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.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.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]**

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- (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:
- (AA) All calibration and maintenance records.
  - (BB) All original strip chart recordings for continuous monitoring instrumentation.
  - (CC) Copies of all reports required by the FESOP.  
Records of required monitoring information include the following:
    - (AA) The date, place, as defined in this permit, and time of sampling or measurements.
    - (BB) The dates analyses were performed.
    - (CC) The company or entity that performed the analyses.
    - (DD) The analytical techniques or methods used.
    - (EE) The results of such analyses.
    - (FF) The operating conditions as existing at the time of sampling or measurement.

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

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

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

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- (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.**

**SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS**

**Emissions Unit Description:**

- ~~(a) one (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 324 tons per hour, equipped with one (1) re-refined waste oil fired aggregate dryer burner with a maximum rated capacity of 102 million (MM) British thermal units (Btu) per hour using No. 2 distillate fuel oil as a back-up fuel and one (1) baghouse for air pollution control, exhausting at one (1) stack, identified as S-1;~~
- ~~(b) one (1) bucket elevator, three (3) feed conveyors, and one (1) screen;~~
- ~~(c) one (1) No. 2 distillate fuel oil fired reciprocating internal combustion generator, identified as emission unit 14, rated at 5.786 MMBtu per hour, exhausting at two (2) stacks, identified as S-5A and S-5B; and~~
- ~~(d) one (1) No. 2 distillate fuel oil fired reciprocating internal combustion generator, identified as emission unit 15, rated at 0.41 MMBtu per hour, exhausting at one (1) stack, identified as S-6;~~

~~(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]**

~~Particulate matter emissions from the aggregate mixing and drying operation shall not exceed 0.0607 pound PM per ton of asphalt mix.~~

~~This limits total source-wide PM emissions to less than 250 tons per year. Therefore, compliance with this limit will render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.~~

**D.1.2 Particulate Matter (PM) [326 IAC 6.5-1-2]**

~~Pursuant to 326 IAC 6.5-1-2(a) (Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the drum mix dryer shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf).~~

~~D.1.3 Particulate Matter Less Than 10 Microns In Diameter (PM-10) [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-3]~~

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~~Pursuant to 326 IAC 2-8-4, particulate matter less than 10 microns in diameter emissions from the aggregate mixing and drying operation shall not exceed 0.0385 pound of PM-10 per ton of asphalt mix.~~

~~This limits the total source-wide PM-10 emissions to 90.0 tons per year. Compliance with this limit will satisfy 326 IAC 2-8-4 and render the requirements of 326 IAC 2-7 (Part 70), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-3 (Emission Offset) not applicable.~~

~~D.1.4 Sulfur Dioxide (SO<sub>2</sub>) [326 IAC 7-1.1-1][326 IAC 7-2-1]~~

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~~(a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 102 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 1.5 percent when using re-refined waste oil. The source has accepted a sulfur content limit of 0.75 percent for re-refined waste oil.~~

~~(b) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 102 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 percent when using distillate oil.~~

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

~~D.1.5 Sulfur Dioxide (SO<sub>2</sub>) Emissions [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-3]~~

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~~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 102 MMBtu per hour burner for the aggregate dryer shall not exceed 0.75 percent by weight.~~

~~(b) The usage of re-refined waste oil and re-refined waste oil equivalents in the 102 MMBtu per hour burner for the aggregate dryer shall be limited to 1,496,679 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

~~(c) The sulfur content of No. 2 distillate fuel oil used in the 5.786 and 0.41 MMBtu's per hour for the reciprocating internal combustion generators shall not exceed 0.50 percent by weight.~~

~~(d) The combined usage of No. 2 distillate fuel oil with a sulfur content of 0.50% in the 5.786 and 0.41 MMBtu's per hour for the reciprocating internal combustion generators shall be limited to 65,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month, so that SO<sub>2</sub> and NO<sub>x</sub> emissions are limited below 100 tons per year.~~

~~(e) For the purposes of determining compliance, every 1,000 gallons of No. 2 distillate fuel oil with a maximum sulfur content of 0.5% burned shall be equivalent to 712 gallons of re-refined waste oil based on SO<sub>2</sub> emissions, such that the total gallons of re-refined waste oil and re-refined waste oil equivalent input does not exceed the limit specified.~~

~~Compliance with these limits will limit source-wide SO<sub>2</sub> emissions to 90 tons per year and shall also render the requirements of 326 IAC 2-7 (Part 70), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-3 (Emission Offset) not applicable.~~

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~~D.1.6 Hydrogen Chloride (HCl) Emissions [326 IAC 2-8-4]~~

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~~Pursuant to 326 IAC 2-8-4(1), the following limits shall apply:~~

- ~~(a) the chlorine content of the re-refined waste oil used in the 102 MMBtu per hour burner for the aggregate dryer shall not exceed 0.2 percent by weight.~~
- ~~(b) the usage of re-refined waste oil in the 102 MMBtu per hour burner for the aggregate dryer shall be limited to 1,496,679 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- ~~(c) The HCl emissions from the 102 MMBtu per hour burner for the aggregate dryer shall be limited to less than 13.2 pounds of HCl per 1,000 gallons of re-refined waste oil burned.~~

~~These limits are required to limit the source-wide emissions of HCl to less than 10 tons per year. Compliance with these limits will also limit source-wide emissions of combined HAPs to less than 25 tons per year. Therefore, compliance with these limits renders 326 IAC 2-7 (Part 70) not applicable.~~

~~D.1.7 Carbon Monoxide (CO) [326 IAC 2-8-4]~~

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~~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 1,264,308 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

~~Compliance with these limits will limit 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 326 IAC 2-7 (Part 70) not applicable.~~

~~D.1.8 Nitrogen Oxides (NOx) [326 IAC 2-8-4]~~

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~~Pursuant to 326 IAC 2-8-4, the following shall apply:~~

- ~~(a) NOx emissions from the drum mix dryer shall not exceed 0.055 pound of NOx per ton of hot mix asphalt produced.~~
- ~~(b) The amount of hot mix asphalt produced in the drum mix dryer shall not exceed 1,264,308 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

~~Compliance with these limits will limit total source-wide NOx emissions to less than 100 tons per year. Compliance with this limit will satisfy 326 IAC 2-8-4 and render the requirements of 326 IAC 2-7 (Part 70) not applicable.~~

~~D.1.9 Volatile Organic Compounds (VOC) [326 IAC 8-1-6] [326 IAC 2-8-4]~~

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- ~~(a) VOC emissions from the drum mix dryer shall not exceed 0.032 pound of VOC per ton of hot mix asphalt produced.~~
- ~~(b) The amount of hot mix asphalt produced in the drum mix dryer shall not exceed 1,264,308 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

~~The limits in (a) and (b) above shall limit VOC emissions from the batch mix dryer to 20.23 tons per year and shall render the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) and 326 IAC 2-7 (Part 70) not applicable.~~

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

~~A Preventive Maintenance Plan is required for this facility and any 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.1.11 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]~~

~~(a) During the period between April 1 and October 1, 2009, in order to demonstrate compliance with Conditions D.1.1, D.1.2, D.1.3 and D.1.20 the Permittee shall perform PM and PM<sub>10</sub> testing for the aggregate batch dryer/mixer utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM<sub>10</sub> includes filterable and condensable PM<sub>10</sub>. 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.~~

~~(b) Opacity testing utilizing 40 CFR Part 60 Appendix A, Method 9, to demonstrate compliance with the opacity limitation of Condition D.1.20.~~

~~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 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 Sulfur Dioxide Emissions and Sulfur and Chlorine Content~~

~~(a) The Permittee shall demonstrate that the chlorine content of the re-refined waste oil does not exceed 0.2% by providing vendor analysis of fuel delivered, accompanied by a vendor certification.~~

~~Compliance for sulfur dioxide shall be determined utilizing one of the following options.~~

~~(b) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed 0.5 pounds per million Btu heat input when burning No. 2 distillate fuel oil and 1.6 pounds per million Btu 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.~~

~~(c) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 102 MMBtu per hour burner for the aggregate dryer or generator,~~

~~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 (b) through (c) above shall not be refuted by evidence of compliance pursuant to the other method.~~

#### ~~D.1.13 Particulate Control~~

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- ~~(a) — The baghouse for particulate control shall be in operation and control emissions from the aggregate mixing and drying operation at all times that the aggregate mixing and drying operation 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 2-8-4][326 IAC 2-8-5(a)(1)]~~

#### ~~D.1.14 Visible Emissions Notations~~

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- ~~(a) — Visible emission notations of the aggregate dryer and burner baghouse stack exhaust, and the conveying, material transfer points, and screening 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. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response shall be considered a deviation from this permit.~~

#### ~~D.1.15 Parametric Monitoring~~

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~~The Permittee shall record the pressure drop across the baghouse used in conjunction with the aggregate mixing and drying operation, at least once per day when the aggregate dryer and burner are in operation. When for any one reading, 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. 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.~~

#### ~~D.1.16 Broken or Failed Bag Detection~~

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- ~~(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 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~~

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- ~~(a) To document the compliance status with Conditions D.1.4, D.1.5, and D.1.6 the Permittee shall maintain records in accordance with (1) through (7) below. Records maintained for (1) through (7) shall be taken monthly and shall be complete and sufficient to establish compliance with the SO<sub>2</sub> emission limit established in Conditions D.1.4 and D.1.5, the HCl emission limit established in Condition D.1.6.~~
- ~~(1) Calendar dates covered in the compliance determination period;~~
- ~~(2) Actual re-refined waste oil and re-refined waste oil equivalent usage in the aggregate dryer burner per month since last compliance determination period and equivalent SO<sub>2</sub> and HCl emissions;~~
- ~~(3) Actual No. 2 fuel oil usage in the generators per month since last compliance determination period and equivalent SO<sub>2</sub> and NO<sub>x</sub> 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;~~
- ~~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 and chlorine content of the fuel oil.~~
- ~~(b) To document the compliance status with Conditions D.1.7, D.1.8 and D.1.9 the Permittee shall maintain monthly records of the hot mix asphalt produced in the drum mix dryer.~~
- ~~(c) The Permittee shall maintain records sufficient to verify compliance with the procedures specified in condition D.1.12 (a) or D.1.12 (b) if applicable. Records shall be maintained for a period of five (5) years and shall be made available upon request by IDEM.~~

- (d) ~~— To document the compliance status with Condition D.1.14, the Permittee shall maintain a daily record of visible emission notations of the aggregate dryer and burner baghouse stack exhausts. 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 daily record of the pressure drop across the baghouse controlling the aggregate dryer. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the 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 the compliance status with Conditions D.1.5, D.1.6, D.1.7, D.1.8, and D.1.9 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 meet the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

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

#### ~~D.1.19 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.1.20 New Source Performance Standards (NSPS) for Hot Mix Asphalt 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:**

- (a) one (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 324 tons per hour of raw material, approved for modification in 2012 to add blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) re-refined waste oil fired aggregate dryer burner with a maximum rated capacity of 102 million (MM) British thermal units (Btu) per hour using No. 2 distillate fuel oil, and approved for modification in 2012 to add propane and natural gas as a back-up fuel and one (1) baghouse for air pollution control, exhausting at one (1) stack, identified as S-1;**
- (b) one (1) bucket elevator, three (3) feed conveyors, and one (1) screen;**
- (c) one (1) liquid asphalt storage tank, identified as Tank 18, with a maximum storage capacity of 20,000 gallons, exhausting to one (1) vent, identified as V-7;**
- (d) one (1) No. 2 distillate fuel oil fired tank heater, identified as emission unit No. 12, rated at 1.5 MMBtu per hour, exhausting at two (2) stacks, identified as S-3A and S-3B;**
- (e) one (1) No. 2 distillate fuel oil direct fired tank heater, connected to Tank 18, identified as emission unit No. 19, rated at 0.84 MMBtu per hour, exhausting to one (1) stack, identified as S-8;**
- (f) one (1) liquid asphalt storage tank, identified as Tank 11, with a maximum storage capacity of 30,000 gallons, exhausting at one (1) stack, identified as V-2;**

- (g) one (1) re-refined waste oil storage tank, identified as Tank 13, with a maximum storage capacity of 19,000 gallons, exhausting at one (1) stack, identified as V-4;
- (h) one (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 170 tons;
- (i) one (1) hot mix asphalt cement storage silo, with a maximum storage capacity of 70 tons;
- (j) one (1) Recycled Asphalt Pavement (RAP) feed bin;
- (k) aggregate storage piles, including Blast furnace and/or electric arc steel slag storage piles and Supplier certified asbestos-free factory seconds and/or post consumer waste shingles storage piles, with a maximum storage capacity of 42,680 tons;

Above units Under 40 CFR 60, Subpart I, this asphalt plant is considered an affected source.

(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 1,000,000 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 0.365 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, NOx, VOC, and CO [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-1.1-5][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 1,000,000 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 0.155 pounds per ton of asphalt processed.
- (c) The PM2.5 emissions from the dryer/mixer shall not exceed 0.174 pounds of PM2.5 per ton of asphalt produced.

- (d) The SO<sub>2</sub> emissions from the dryer/mixer shall not exceed 0.058 pounds per ton of asphalt processed.
- (e) The NO<sub>x</sub> emissions from the dryer/mixer shall not exceed 0.055 pounds per ton of asphalt processed.
- (f) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.
- (g) 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 PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, 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)), not applicable.

Additionally, compliance with the limit in condition D.1.2(f) 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: SO<sub>2</sub>, NO<sub>x</sub>, 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 combusted in the dryer burner 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 No. 2 distillate fuel oil combusted in the generators burner shall not exceed 0.50% by weight.
- (6) The sulfur content of the Blast Furnace slag shall not exceed 1.50% by weight.
- (7) The SO<sub>2</sub> emissions from the dryer/mixer shall not exceed 0.740 pounds per ton of Blast Furnace slag processed in the aggregate mix.
- (8) The sulfur content of the Steel slag shall not exceed 0.66% by weight.
- (9) The SO<sub>2</sub> 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:**

- (1) 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:**
- (A) Natural gas usage in the dryer/mixer burner shall not exceed 325 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.**
  - (B) No. 2 fuel oil usage in the dryer/mixer burner shall not exceed 1,695,243 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;**
  - (C) Propane usage in the dryer/mixer burner shall not exceed 4,730,811 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;**
  - (D) Waste oil usage in the dryer/mixer burner shall not exceed 1,091,721 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month; and**
  - (E) 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.**
- (2) When combusting only one type of fuel in the generators, the usage of distillate fuel #2 in the generator shall not exceed 65,000 gallons per consecutive twelve (12) month period, with compliance determined at the end of each month;**

**Note: The source is only permitted to burn the above-mentioned fuels in the associated emission units.**

**(c) Multiple Fuel and Slag Usage Limitation:**

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

- (1) SO<sub>2</sub> emissions from the dryer/mixer burner and generators, combined, shall not exceed 80.98 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**
- (2) NO<sub>x</sub> emissions from the dryer/mixer burner and generators, combined, shall not exceed 39.52 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**
- (3) HCl emissions from the dryer/mixer burner shall not exceed 7.21 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 SO<sub>2</sub>, NO<sub>x</sub>, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO<sub>2</sub> and NO<sub>x</sub> 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 6.5-1-2]**

Pursuant to 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the dryer/mixer shall not exceed 0.03 grain per dry standard cubic foot of exhaust air when the source is located in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties.

**D.1.5 Sulfur Dioxide (SO<sub>2</sub>) [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 (SO<sub>2</sub>) emissions from the dryer/mixer burner and generators burner, each, shall not exceed five tenths (0.5) pounds per MMBtu when using distillate oil.
- (2) The sulfur dioxide (SO<sub>2</sub>) 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.1.6 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.1.7 Particulate Control**

(a) In order to comply with Conditions D.1.1(b), D.1.2(b), D.1.2(c), and D.1.4, 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.1.8 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]**

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- (a) In order to demonstrate compliance with Conditions D.1.1(b), D.1.2(b), D.1.2(c), and D.1.4, the Permittee shall perform PM, PM<sub>10</sub>, and PM<sub>2.5</sub> testing of the dryer/mixer not later than 180 days after the startup of the dryer/mixer, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of 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. PM<sub>10</sub> and PM<sub>2.5</sub> includes filterable and condensable particulate matter.
  
- (b) In order to demonstrate compliance with Condition D.1.3(a)(7), when using Blast Furnace slag, the Permittee shall perform SO<sub>2</sub> 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 SO<sub>2</sub> 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.1.9 Sulfur Dioxide (SO<sub>2</sub>) Emissions and Sulfur Content**

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*Fuel Oil*

- (a) Compliance with the fuel limitations established in Conditions D.1.3(a)(1), D.1.3(a)(2), D.1.3(a)(5) and D.1.5, 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) 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 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)(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) 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 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)(8) 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 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.1.10 Hydrogen Chloride (HCl) Emissions and Ash, Chlorine, and Lead Content**

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The Permittee shall demonstrate compliance with the waste oil ash, chlorine, and lead content limits established in Condition D.1.3(a)(3) and D.1.3(a)(4), by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.

### **D.1.11 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 and generators, in conjunction with the use of slag in the aggregate mix, emissions from the dryer/mixer and generators shall be limited as follows:

(a) **Sulfur Dioxide (SO<sub>2</sub>) Emission Calculation**

$$SO_2 = \frac{G(E_G) + O(E_O) + P(E_P) + W(E_W) + D(E_D) + B(E_B) + T(E_T)}{2,000 \text{ lbs/ton}}$$

*where:*

SO<sub>2</sub>= tons of sulfur dioxide emissions for a 12-month consecutive period  
G = gallons of natural gas used in the dryer/mixer in the last 12 months  
O = gallons of No. 2 fuel oil used in the dryer/mixer in the last 12 months  
P = gallons of propane used in the dryer/mixer in the last 12 months  
W = gallons of waste oil used in the dryer/mixer in the last 12 months  
D = gallons of No. 2 fuel oil used in the genset generators in the last 12 months  
B = tons of blast furnace slag used in the dryer/mixer in the last 12 months  
T = tons of steel slag used in the in the dryer/mixer last 12 months

E<sub>G</sub> = 0.60 lb/million cubic feet of natural gas  
E<sub>O</sub> = 71.0 lb/1000 gallons of No. 2 fuel oil  
E<sub>P</sub> = 0.02 lb/1000 gallons of propane  
E<sub>W</sub> = 110.3 lb/1000 gallons of waste oil  
E<sub>D</sub> = 70.7 lb/1000 gallons of No. 2 fuel oil  
E<sub>B</sub> = 0.74 lb/ton of blast furnace slag used  
E<sub>T</sub> = 0.0014 lb/ton of steel slag used

(b) **Nitrogen Oxides (NO<sub>x</sub>) Emission Calculation**

$$NO_x = \frac{G(E_G) + O(E_O) + P(E_P) + W(E_W) + D(E_D)}{2,000 \text{ lbs/ton}}$$

*where:*

NO<sub>x</sub>= tons of nitrogen oxide emissions for a 12-month consecutive period;  
G = million cubic feet of natural gas used in the in the dryer/mixer last 12 months;  
O = gallons of No. 2 fuel oil used in the in the dryer/mixer last 12 months;  
P = gallons of propane used in the dryer/mixer in the last 12 months  
W = gallons of reclaimed/waste oil used in the in the dryer/mixer last 12 months.  
D = gallons of No. 2 fuel oil used in the genset generator in the last 12 months

E<sub>G</sub> = 190 lb/million cubic feet of natural gas;  
E<sub>O</sub> = 24.0 lb/1000 gallons of No. 2 fuel oil;  
E<sub>P</sub> = 13.0 lb/1000 gallons of propane  
E<sub>W</sub> = 19.0 lb/1000 gallons of waste oil.  
E<sub>D</sub> = 266 lb/1000 gallons of No. 2 fuel oil.

(c) **HCl emissions Calculation:**

$$HCl = \frac{W(E_W)}{2,000 \text{ lbs/ton}}$$

**where:**

**HCl** = tons of Hydrogen Chloride emissions for twelve (12) month consecutive period

**W** = gallons of waste oil used in the last 12 months

**E<sub>w</sub>** = 13.2 lb/1000 gallons of waste oil

**D.1.12 Shingle Asbestos Content**

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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.1.13 Visible Emissions Notations**

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- (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.1.14 Parametric Monitoring**

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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.1.15 Broken or Failed Bag Detection**

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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.1.16 Record Keeping Requirements**

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- (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.1.5, 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.1.5.
  - (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 (HCl) 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:

  - (A) Fuel supplier certifications;
  - (B) The name of the fuel supplier; and
  - (C) A statement from the fuel supplier that certifies the sulfur content of the No. 2, fuel oil, distillate fuel oil, 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:

  - (A) Blast furnace and steel slag supplier certifications;
  - (B) The name of the blast furnace and steel slag supplier; and
  - (C) 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.1.13, 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.1.14, 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.1.17 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 FACILITY CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(d) cold-mix (stockpile mix) asphalt storage piles.

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

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

D.2.1 Volatile Organic Compound (VOC) [326 IAC 8-5-2][326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-3]

(a) 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:

(1) penetrating prime coating

(2) stockpile storage

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

(b) Gelled asphalt with VOC solvent liquid binder used in the production of cold mix asphalt shall not exceed 1859.78 tons of VOC solvent per twelve (12) consecutive month period. This will limit the VOC emitted from solvent use to 46.49 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 will not apply. This limit will also render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-3 (Emission Offset) not applicable.

~~Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]~~

~~D.2.2 Record Keeping Requirements~~

~~To document the compliance status with Condition D.2.1(b), 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 limits established in Condition D.2.1(b).~~

- ~~(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.~~

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

~~D.2.3 Reporting Requirements~~

~~A quarterly summary of the information to document the compliance status with Condition D.2.1(b) shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. 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:**

- (I) Cold-mix (stockpile mix) asphalt manufacturing operations and asphalt 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]**

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- (a) Pursuant to 326 IAC 2-8-4, the VOC emissions from the sum of the liquid binders (asphalt emulsions) shall not exceed 60.55 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 63.74 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 tons per twelve (12) consecutive month period, with compliance 86.50 determined at the end of each month.
  - (3) The amount of VOC solvent used in slow cure cutback asphalt shall not exceed 242.21 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 130.50 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 2,422.07 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).

### SECTION D.3 FACILITY CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- ~~(c) degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 (parts washer using non-HAP Safety Kleen or Crystal Clean solvent);~~

~~(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.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

~~Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the owner or operator shall:~~

- ~~(a) Equip the cleaner with a cover;~~
- ~~(b) Equip the cleaner with a facility for draining cleaned parts;~~
- ~~(c) Close the degreaser cover whenever parts are not being handled in the cleaner;~~
- ~~(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;~~
- ~~(e) Provide a permanent, conspicuous label summarizing the operation requirements;~~
- ~~(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.~~

### **SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS**

**Emissions Unit Description:**

- (g) degreasing operations that do not exceed 145 gallons per 12 months, except if subject 326 IAC 20-6 (parts washer using non-HAP Safety Kleen or Crystal Clean solvent);**

**(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.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]**

**Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations, the owner or operator shall:**

- (a) Equip the cleaner with a cover;**
- (b) Equip the cleaner with a facility for draining cleaned parts;**
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;**
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;**
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;**
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.**

**SECTION E.1**

**NSPS REQUIREMENTS**

**Emissions Unit Description: Hot-mix Asphalt Plant**

- (a) one (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 324 tons per hour of raw material, approved for modification in 2012 to add blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) re-refined waste oil fired aggregate dryer burner with a maximum rated capacity of 102 million (MM) British thermal units (Btu) per hour using No. 2 distillate fuel oil, and approved for modification in 2012 to add propane and natural gas as a back-up fuel and one (1) baghouse for air pollution control, exhausting at one (1) stack, identified as S-1;
- (b) one (1) bucket elevator, three (3) feed conveyors, and one (1) screen;
- (c) one (1) liquid asphalt storage tank, identified as Tank 18, with a maximum storage capacity of 20,000 gallons, exhausting to one (1) vent, identified as V-7;
- (d) one (1) No. 2 distillate fuel oil fired tank heater, identified as emission unit No. 12, rated at 1.5 MMBtu per hour, exhausting at two (2) stacks, identified as S-3A and S-3B;
- (e) one (1) No. 2 distillate fuel oil direct fired tank heater, connected to Tank 18, identified as emission unit No. 19, rated at 0.84 MMBtu per hour, exhausting to one (1) stack, identified as S-8;
- (f) one (1) liquid asphalt storage tank, identified as Tank 11, with a maximum storage capacity of 30,000 gallons, exhausting at one (1) stack, identified as V-2;
- (g) one (1) re-refined waste oil storage tank, identified as Tank 13, with a maximum storage capacity of 19,000 gallons, exhausting at one (1) stack, identified as V-4;
- (h) one (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 170 tons;
- (i) one (1) hot mix asphalt cement storage silo, with a maximum storage capacity of 70 tons;
- (j) one (1) Recycled Asphalt Pavement (RAP) feed bin;
- (k) aggregate storage piles, including Blast furnace and/or electric arc steel slag storage piles and Supplier certified asbestos-free factory seconds and/or post consumer waste shingles storage piles, with a maximum storage capacity of 42,680 tons;

Above units Under 40 CFR 60, Subpart I, this asphalt plant is considered an affected source.

(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]**

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- (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]**

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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: Recycled Asphalt Pavement (RAP) Crushing & Screening Operation

- (o) One (1) 430 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 500 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.

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:

- (a) 40 CFR 60.670(a), (d), (e), and (f)  
(b) 40 CFR 60.671  
(c) 40 CFR 60.672(b), (d), and (e)  
(d) 40 CFR 60.673  
(e) 40 CFR 60.674(b)  
(f) 40 CFR 60.675(a), (c)(1)(i), (ii), (iii), (c)(3), (d), (e), (g), and (i)  
(g) 40 CFR 60.676(a), (b)(1), (f), (h), (i), (j), and (k)  
(h) 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]**

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**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

### NESHAP REQUIREMENTS

#### Emissions Unit Description: Generators

- (m) one (1) Genset 500 kW No. 2 distillate fuel oil fired reciprocating internal combustion generator, constructed in 1984, identified as emission unit 14, rated at 5.786 MMBtu per hour, exhausting at two (2) stacks, identified as S-5A and S-5B; and

Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, this is considered an affected facility.

- (n) one (1) Genset 40 kW No. 2 distillate fuel oil fired reciprocating internal combustion, constructed in 1992, identified as emission unit 15, rated at 0.41 MMBtu per hour, exhausting at one (1) stack, identified as S-6;

Under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, 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.)

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

##### E.3.1 General Provisions Relating to NESHAP [40 CFR Part 63, Subpart A] [326 IAC 20-1]

Pursuant to 40 CFR 63, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions for generators Unit 14 and Unit 15, which are incorporated by reference as 326 IAC 20-1, except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

##### E.3.2 NESHAP for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

- (a) The existing Genset generator Unit 14 is subject to the requirements of the 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary reciprocating internal combustion engine (RICE), which are incorporated by reference as 326 IAC 20-82, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ (included as Attachment D of this permit) as follows:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(1)(iii)
- (4) 40 CFR 63.6595(a)(1),(b), and (c)
- (5) 40 CFR 63.6603
- (6) 40 CFR 63.6604
- (7) 40 CFR 63.6605
- (8) 40 CFR 63.6612
- (9) 40 CFR 63.6615
- (10) 40 CFR 63.6620
- (11) 40 CFR 63.6625 (g)
- (12) 40 CFR 63.6630
- (13) 40 CFR 63.6635
- (14) 40 CFR 63.6640(a), (b), and (e)

- (15) 40 CFR 63.6645 (a)(2), (f), (g), and (h)
- (16) 40 CFR 63.6650
- (17) 40 CFR 63.6655
- (18) 40 CFR 63.6660
- (19) 40 CFR 63.6665
- (20) 40 CFR 63.6670
- (21) 40 CFR 63.6675
- (22) Table 2b
- (23) Table 2d (item 3)
- (24) Table 3 (item 4)
- (25) Table 4 (items 1 and 3)
- (26) Table 5 (items 1, 2, 3, 4, 5, and 6)
- (27) Table 6 (items 3, 10, and 11)
- (28) Table 7 (item 1)
- (29) Table 8

- (b) The existing Genset generator Unit 15 is subject to the requirements of the 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary reciprocating internal combustion engine (RICE), which are incorporated by reference as 326 IAC 20-82, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ (included as Attachment D of this permit) as follows:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(1)(iii)
- (4) 40 CFR 63.6595(a)(1), (b), and (c)
- (5) 40 CFR 63.6603
- (6) 40 CFR 63.6605
- (7) 40 CFR 63.6625 (e)(4) ], (h), [(i)
- (8) 40 CFR 63.6635 (a) (b)
- (9) 40 CFR 63.6640(a), (b), and (e)
- (10) 40 CFR 63.6645 (a)(5)
- (11) 40 CFR 63.6655 (a) (b) (d) [(e) (3)]
- (12) 40 CFR 63.6670
- (13) 40 CFR 63.6675
- (14) Table 2d (item 1)
- (15) Table 6 (item 9)
- (16) Table 8

**SECTION E.4**

**NSPS & NESHAP REQUIREMENTS**

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

- (o) **One (1) 430 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 500 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.**

**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.4.1 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.4.2 Record Keeping Requirements**

- (a) To document the compliance status with Condition E.4.1(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.4.1(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.4.3 Reporting Requirements**

A quarterly summary of the information to document compliance status with Conditions E.4.1(a) and E.4.1(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~~

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

Source Name: Milestone Contractors, L.P.  
Source Address: (Portable)  
FESOP Permit No.: F111-23687-03273

~~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) \_\_\_\_\_~~

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

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

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

Source Name: Milestone Contractors, L.P.  
Source Address: (Portable)  
FESOP Permit No.: F111-23687-03273

This form consists of 2 pages Page 1 of 2

<input type="checkbox"/> <del>This is an emergency as defined in 326 IAC 2-7-1(12)</del> <ul style="list-style-type: none"><li>• <del>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</del></li><li>• <del>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</del></li></ul>
--

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? <input type="checkbox"/> Y <input type="checkbox"/> N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO <sub>2</sub> , VOC, NO <sub>x</sub> , 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 DATA SECTION~~

~~FESOP Quarterly Report~~

~~Source Name: Milestone Contractors, L.P.  
 Source Address: (Portable)  
 FESOP Permit No.: F111-23687-03273  
 Facility: 102 MMBtu per hour aggregate dryer burner  
 Parameter: Re-refined waste oil and equivalent usage limit to limit SO<sub>2</sub> and HCl emissions  
 Limit: the usage of re-refined waste oil with a sulfur content of 0.75% and a maximum chlorine content of 0.2% and re-refined waste oil equivalents in the 102 MMBtu per hour burner for the aggregate dryer shall be limited to 1,496,679 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.1.5 (e) shall be used.~~

~~YEAR: \_\_\_\_\_~~

Month	Column 1	Column 2	Column 1 + Column 2
	Re-refined waste oil and equivalent usage This Month (gallons)	Re-refined waste oil and equivalent usage Previous 11 Months (gallons)	12 Month Total Re-refined waste oil and equivalent usage (gallons)
Month 1			
Month 2			
Month 3			

~~No deviation occurred in this quarter.~~

~~Deviation/s occurred in this quarter.~~

~~Deviation has been reported on: \_\_\_\_\_~~

Submitted by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

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

**FESOP Quarterly Report**

Source Name: \_\_\_\_\_ Milestone Contractors, L.P.  
Source Address: \_\_\_\_\_ (Portable)  
FESOP Permit No.: \_\_\_\_\_ F111-23687-03273  
Facility: \_\_\_\_\_ Two (2) reciprocating internal combustion generators  
Parameter: \_\_\_\_\_ No. 2 fuel oil usage limit to limit SO<sub>2</sub> and NO<sub>x</sub> emissions  
Limit: \_\_\_\_\_ the combined usage of No.2 fuel oil with a sulfur content of 0.5% in the 5.786 and 0.41 MMBtu per hour burner for the aggregate dryer shall be limited to 65,000 U.S. gallons 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
	No. 2 fuel oil usage This Month (gallons)	No. 2 fuel oil usage Previous 11 Months (gallons)	12 Month Total No. 2 fuel oil usage (gallons)
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.

Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

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

**FESOP Quarterly Report**

Source Name: \_\_\_\_\_ Milestone Contractors, L.P. \_\_\_\_\_  
Source Address: \_\_\_\_\_ (Portable) \_\_\_\_\_  
FESOP Permit No.: \_\_\_\_\_ F111-23687-03273 \_\_\_\_\_  
Facility: \_\_\_\_\_ drum mix dryer \_\_\_\_\_  
Parameter: \_\_\_\_\_ Hot mix asphalt production \_\_\_\_\_  
Limit: \_\_\_\_\_ The amount of hot mix asphalt produced in the drum mix dryer shall not exceed  
1,264,308 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			

~~9~~ No deviation occurred in this quarter.

~~9~~ 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 DATA SECTION**

**FESOP Quarterly Report**

Source Name: \_\_\_\_\_ Milestone Contractors, L.P.  
 Source Address: \_\_\_\_\_ (Portable)  
 FESOP Permit No.: \_\_\_\_\_ F111-23687-03273  
 Facility: \_\_\_\_\_ Cold Mix Asphalt Storage  
 Parameter: \_\_\_\_\_ VOC Usage  
 Limit: \_\_\_\_\_ Gelled asphalt with VOC solvent liquid binder used in the production of cold mix asphalt shall not exceed 1859.78 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month. This will limit the VOC emitted from solvent use to 46.49 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			

9 \_\_\_\_\_ No deviation occurred in this quarter.

9 \_\_\_\_\_ 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 DATA SECTION**  
~~FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)~~  
~~QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT~~

Source Name: \_\_\_\_\_ Milestone Contractors, L.P. \_\_\_\_\_  
Source Address: \_\_\_\_\_ (Portable) \_\_\_\_\_  
FESOP Permit No.: \_\_\_\_\_ F111-23687-03273 \_\_\_\_\_

Months: \_\_\_\_\_ to \_\_\_\_\_ Year: \_\_\_\_\_

Page 1 of 2

<p>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 <input type="checkbox"/> No deviations occurred this reporting period.</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

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

Form Completed by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

**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.  
**Initial Source Address:** 3255 West 650 South, Williamsport, Indiana 47993  
**FESOP Permit No.:** F 111-23687-03273

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.  
**Current Source Address** 3255 West 650 South, Williamsport, Indiana 47993  
**FESOP Permit No.:** F 111-23687-03273

This form consists of 2 pages

Page 1 of 2

- |   |
|---|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none"><li>• 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</li><li>• 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</li></ul> |
|---|

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

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

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

**Page 2 of 2**

<b>Date/Time Emergency started:</b>
<b>Date/Time Emergency was corrected:</b>
<b>Was the facility being properly operated at the time of the emergency?    Y    N</b> <b>Describe:</b>
<b>Type of Pollutants Emitted: TSP, PM-10, SO<sub>2</sub>, VOC, NO<sub>x</sub>, CO, Pb, other:</b>
<b>Estimated amount of pollutant(s) emitted during emergency:</b>
<b>Describe the steps taken to mitigate the problem:</b>
<b>Describe the corrective actions/response steps taken:</b>
<b>Describe the measures taken to minimize emissions:</b>
<b>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:</b>

**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.  
**Current Source Address:** 3255 West 650 South, Williamsport, Indiana 47993  
**FESOP Permit No.:** F 111-23687-03273  
**Facility:** Drum mix dryer  
**Parameter:** Hot mix asphalt production  
**Limit:** The amount of hot mix asphalt produced in the drum mix dryer shall not exceed 1,000,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

**YEAR:** \_\_\_\_\_

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

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

**Submitted by:** \_\_\_\_\_  
**Title / Position:** \_\_\_\_\_  
**Signature:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**Phone:** \_\_\_\_\_

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

**FESOP Quarterly Report**

**Source Name:** Milestone Contractors, L.P.  
**Current Source Address:** 3255 West 650 South, Williamsport, Indiana 47993  
**FESOP Permit No.:** F 111-23687-03273  
**Facility:** Dryer/Mixer Burner and Generators  
**Parameter:** Fuel & Slag Usage / SO<sub>2</sub>, and NO<sub>x</sub> emissions  
**Emission Limits:** Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 80.98 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.11(a).  
Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 39.52 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.11(b).  
Hydrogen Chloride (HCl) emissions shall not exceed 7.21 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.11(c).

**Fuel & Slag Limits:** When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner, and generators 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)
<b>Dryer/Mixer Burner</b>	
Natural Gas (million cubic feet)	325.0
No. 2 Distillate Fuel Oil (gallons)	1,695,243
Waste Oil (gallons)	1,091,721
Propane (gallons)	4,730,811
No. 2 Distillate Fuel Oil in generators (gallons)	65,000
Blast Furnace (tons)	50,000

**Facility:** Cold-mix Asphalt Production  
**Parameter:** Binder Usage / VOC Emissions  
**Emission Limits:** VOC emissions from the sum of the binders shall not exceed 60.55 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Type of Binder	Binder Usage Limit (per 12 consecutive month period)
Cutback Asphalt Rapid Cure	63.74
Cutback Asphalt Medium Cure	86.50
Cutback Asphalt Slow Cure	242.21
Emulsified Asphalt	130.50
Other Asphalt	2,422.07

**FESOP Quarterly Report - Fuel & Slag Usage / SO<sub>2</sub>, NO<sub>x</sub>, and 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 (SO <sub>2</sub> ) Emissions (tons per 12 months)	Nitrogen Oxides (NO <sub>x</sub> ) 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)							
	Propane (gallons)							
	Fuel Oil (gallons) in Genset							
	Blast Furnace Slag (tons)							
	Steel Furnace Slag (tons)							
Month 2	Natural gas (MMCF)							
	No. 2 Fuel Oil (gallons)							
	Waste Fuel Oil (gallons)							
	Propane (gallons)							
	Fuel Oil (gallons) in Genset							
	Blast Furnace Slag (tons)							
	Steel Furnace Slag (tons)							
Month 3	Natural gas (MMCF)							
	No. 2 Fuel Oil (gallons)							
	Waste Fuel Oil (gallons)							
	Propane (gallons)							
	Fuel Oil (gallons) in Genset							
	Blast Furnace Slag (tons)							
	Steel Furnace Slag (tons)							

- 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: \_\_\_\_\_

**FESOP Quarterly Report - Binder Usage / VOC Emissions**

QUARTER: \_\_\_\_\_ YEAR: \_\_\_\_\_

Month	Binder/Emulsion Types (units)	Column 1	Column 2	Column 1 + Column 2	Equation
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	VOC Emissions (tons per 12 months)
Month 1	Cutback asphalt rapid cure liquid binder (MM 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 (MM 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 (MM 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: \_\_\_\_\_

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.  
**Current Source Address:** 3255 West 650 South, Williamsport, Indiana 47993  
**FESOP Permit No.:** F 111-23687-03273

**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.  
Current Source Address: 3255 West 650 South, Williamsport, Indiana 47993  
FESOP Permit No.: F 111-23687-03273

Months: \_\_\_\_\_ to \_\_\_\_\_ Year: \_\_\_\_\_

Page 1 of 2

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

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

Form Completed by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

### 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, and additional information was received on February 10, and 14, 2012.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Revision No. 171-31109-03273. 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. Renee Traivaranon at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5615 or toll free at 1-800-451-6027 extension 4-5615.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.in.gov/idem](http://www.in.gov/idem)

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**Asphalt Plant Maximum Capacity - Drum Mix**

Maximum Hourly Asphalt Production =	324	ton/hr										
Maximum Annual Asphalt Production =	2,838,240	ton/yr										
Maximum Annual Blast Furnace Slag Usage =	1,192,061	ton/yr	1.50	% sulfur								
Maximum Annual Steel Slag Usage =	1,192,061	ton/yr	0.66	% sulfur								
Maximum Dryer Fuel Input Rate =	102.0	MMBtu/hr										
Natural Gas Usage =	894	MMCF/yr										
No. 2 Fuel Oil Usage =	6,382,286	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 =	9,873,149	gal/yr, and	0.20	gr/100 ft3 sulfur								
Butane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur								
Used/Waste Oil Usage =	6,382,286	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead		
Distillate Fuel Oil Usage (generator only) =	387,693	gal/yr, and	0.50	% sulfur								
Distillate Fuel Oil Usage (Telex only) =	192,464	gal/yr, and	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 NOx Dryer/Mixer Emission Factor =	0.055	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**

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)										
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO2e	Total HAPs	Worst Case HAP	
<b>Ducted Emissions</b>											
Dryer Fuel Combustion (worst case)	208.32	166.00	166.00	351.82	84.88	4.94	37.53	72,123.59	45.74	42.12 (hydrogen chloride)	
Dryer/Mixer (Process)	39,735.36	9,224.28	2,128.68	82.31	78.05	45.41	184.49	47,188.58	15.13	4.40 (formaldehyde)	
Dryer/Mixer Slag Processing (worst case)	0	0	0	441.06	0	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.15	0.24	0.24	5.20	1.46	0.01	0.37	1,654.60	0.005	0.004 (formaldehyde)	
Genset Generator Fuel Combustion	2.71	1.56	1.56	13.70	86.84	2.44	23.07	4,493.59	0.043	0.021 (benzene)	
Telex Crusher Fuel Combustion*	4.09	4.09	4.09	3.82	58.14	4.75	12.52	2,169.83	0.05	0.02 (formaldehyde)	
<b>Worst Case Emissions**</b>	<b>39,742.31</b>	<b>9,230.16</b>	<b>2,134.56</b>	<b>815.61</b>	<b>231.33</b>	<b>52.62</b>	<b>220.44</b>	<b>80,441.61</b>	<b>45.84</b>	<b>42.12 (hydrogen chloride)</b>	
<b>Fugitive Emissions</b>											
Asphalt Load-Out, Silo Filling, On-Site Yard	1.57	1.57	1.57	0	0	24.31	4.09	0	0.41	0.13 (formaldehyde)	
Material Storage Piles	2.56	0.89	0.89	0	0	0	0	0	0	0	
Material Processing and Handling	9.17	4.34	0.66	0	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	45.03	16.45	16.45	0	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	100.79	25.69	2.57	0	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	34,108.55	0	0	8,896.77	3,069.77 (xylenes)	
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	0 (xylenes)	
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0	
<b>Total Fugitive Emissions</b>	<b>159.11</b>	<b>48.94</b>	<b>22.14</b>	<b>0</b>	<b>0</b>	<b>34,132.86</b>	<b>4.09</b>	<b>0</b>	<b>8,897.18</b>	<b>3,069.77 (xylenes)</b>	
<b>Totals Unlimited/Uncontrolled PTE</b>	<b>39,901.42</b>	<b>9,279.10</b>	<b>2,156.70</b>	<b>815.61</b>	<b>231.33</b>	<b>34,185.47</b>	<b>224.53</b>	<b>80,441.61</b>	<b>8,943.01</b>	<b>3,069.77 (xylenes)</b>	

negl = negligible N/A = not applicable.

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 applicability.

\*\* 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 Calculation:  
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/h**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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	=	324	ton/hr
Maximum Annual Asphalt Production	=	2,838,240	ton/yr
Maximum Fuel Input Rate	=	102	MMBtu/hr
Natural Gas Usage	=	894	MMCF/yr
No. 2 Fuel Oil Usage	=	6,382,286	gal/yr, and
No. 4 Fuel Oil Usage	=	0	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage	=	0	gal/yr, and
Propane Usage	=	9,873,149	gal/yr, and
Butane Usage	=	0	gal/yr, and
Used/Waste Oil Usage	=	6,382,286	gal/yr, and

	=	0.50	% sulfur
	=	0	% sulfur
	=	0	% sulfur
	=	0.20	gr/100 ft3 sulfur
	=	0	gr/100 ft3 sulfur
	=	0.75	% sulfur
	=	1.02	% ash
	=	0.200	% chlorine
	=	0.010	% lead

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	7.0	3.22	0.5	0.6	65.3	0.85	6.38	0	0	2.47	0	208.32	208.32
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	52.02	3.40	10.53	0	0	2.47	0	166.00	166.00
SO2	0.6	71.0	0	0	0.02	0	110.3	0.27	226.57	0	0	0.10	0	351.82	351.82
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	84.88	76.59	0	0	64.18	0	60.63	84.88
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.46	0.64	0	0	4.94	0	3.19	4.94
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	37.53	15.96	0	0	37.02	0	15.96	37.53
<b>Hazardous Air Pollutant</b>															
HCl							13.2							42.12	42.12
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	8.94E-05	1.79E-03	0	0			3.51E-01	0.35
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	5.36E-06	1.34E-03	0	0			negl	1.3E-03
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	4.91E-04	1.34E-03	0	0			2.97E-02	0.03
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	6.25E-04	1.34E-03	0	0			6.38E-02	0.06
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	3.75E-05		0	0			6.70E-04	6.7E-04
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.23E-04	4.02E-03	0	0			1.8E+00	1.76
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.70E-04	2.68E-03	0	0			2.17E-01	0.22
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.16E-04	1.34E-03	0	0				1.3E-03
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	9.38E-04	1.34E-03	0	0			3.51E-02	0.04
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.07E-05	6.70E-03	0	0			negl	6.7E-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				9.38E-04		0	0				9.4E-04
Bis(2-ethylhexyl)phthalate							2.2E-03							7.02E-03	7.0E-03
Dichlorobenzene	1.2E-03						8.0E-07	5.36E-04						2.55E-06	5.4E-04
Ethylbenzene			6.36E-05	6.36E-05						0	0				0
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.35E-02	1.95E-01	0	0				0.19
Hexane	1.8E+00							8.04E-01							0.80
Phenol							2.4E-03							7.66E-03	7.7E-03
Toluene	3.4E-03		6.20E-03	6.20E-03				1.52E-03		0	0				1.5E-03
Total PAH Haps	negl		1.13E-03	1.13E-03				negl		0	0			1.25E-01	0.12
Polycyclic Organic Matter		3.30E-03													0.01
Xylene			1.09E-04	1.09E-04						0	0				0
<b>Total HAPs</b>								<b>0.8433757</b>	<b>0.23</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>44.71</b>	<b>45.74</b>

**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

**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

\*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.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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 =	324	ton/hr								
Maximum Annual Asphalt Production =	2,838,240	ton/yr								
Maximum Fuel Input Rate =	102	MMBtu/hr								
Natural Gas Usage =	894	MMCF/yr								
No. 2 Fuel Oil Usage =	6,382,286	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 =	9,873,149	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	6,382,286	gal/yr, and	0.75	% sulfur	1.02	% ash	0.200	% chlorine,	0.010	% lead

**Unlimited/Uncontrolled Emissions**

CO2e Fraction	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
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 <sub>2</sub>	1
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH <sub>4</sub>	21
N2O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N <sub>2</sub> O	310

CO2e Fraction	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)
CO2	53,683.51	71,805.21	0	0	61,707.18	0	70,282.22
CH4	1.11	2.91	0	0	2.97	0	2.85
N2O	0.98	0.83	0	0	4.44	0	0.57
Total	53,685.60	71,808.96	0	0	61,714.60	0	70,285.64
CO2e Equivalent Emissions (tons/yr)	54,011.59	72,123.59	0	0	63,146.88	0	70,520.12

<b>CO2e for Worst Case Fuel* (tons/yr)</b>
<b>72,123.59</b>

**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.

**Abbreviations**

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

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).

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

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

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

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	28	28	28	39,735.36	39,735.36	39,735.36	<b>39,735.36</b>
PM10*	6.5	6.5	6.5	9,224.28	9,224.28	9,224.28	<b>9,224.28</b>
PM2.5*	1.5	1.5	1.5	2,128.68	2,128.68	2,128.68	<b>2,128.68</b>
SO2**	0.0034	0.011	0.058	4.83	15.61	82.31	<b>82.31</b>
NOx**	0.026	0.055	0.055	36.90	78.05	78.05	<b>78.05</b>
VOC**	0.032	0.032	0.032	45.41	45.41	45.41	<b>45.41</b>
CO***	0.13	0.13	0.13	184.49	184.49	184.49	<b>184.49</b>
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04			2.98E-01	<b>0.30</b>
Antimony	1.80E-07	1.80E-07	1.80E-07	2.55E-04	2.55E-04	2.55E-04	<b>2.55E-04</b>
Arsenic	5.60E-07	5.60E-07	5.60E-07	7.95E-04	7.95E-04	7.95E-04	<b>7.95E-04</b>
Beryllium	negl	negl	negl	negl	negl	negl	<b>0</b>
Cadmium	4.10E-07	4.10E-07	4.10E-07	5.82E-04	5.82E-04	5.82E-04	<b>5.82E-04</b>
Chromium	5.50E-06	5.50E-06	5.50E-06	7.81E-03	7.81E-03	7.81E-03	<b>7.81E-03</b>
Cobalt	2.60E-08	2.60E-08	2.60E-08	3.69E-05	3.69E-05	3.69E-05	<b>3.69E-05</b>
Lead	6.20E-07	1.50E-05	1.50E-05	8.80E-04	2.13E-02	2.13E-02	<b>0.02</b>
Manganese	7.70E-06	7.70E-06	7.70E-06	1.09E-02	1.09E-02	1.09E-02	<b>0.01</b>
Mercury	2.40E-07	2.60E-06	2.60E-06	3.41E-04	3.69E-03	3.69E-03	<b>3.69E-03</b>
Nickel	6.30E-05	6.30E-05	6.30E-05	0.09	0.09	0.09	<b>0.09</b>
Selenium	3.50E-07	3.50E-07	3.50E-07	4.97E-04	4.97E-04	4.97E-04	<b>4.97E-04</b>
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.06	0.06	0.06	<b>0.06</b>
Acetaldehyde			1.30E-03			1.84	<b>1.84</b>
Acrolein			2.60E-05			3.69E-02	<b>0.04</b>
Benzene	3.90E-04	3.90E-04	3.90E-04	0.55	0.55	0.55	<b>0.55</b>
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.34	0.34	0.34	<b>0.34</b>
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	4.40	4.40	4.40	<b>4.40</b>
Hexane	9.20E-04	9.20E-04	9.20E-04	1.31	1.31	1.31	<b>1.31</b>
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.07	0.07	0.07	<b>0.07</b>
MEK			2.00E-05			0.03	<b>0.03</b>
Propionaldehyde			1.30E-04			0.18	<b>0.18</b>
Quinone			1.60E-04			0.23	<b>0.23</b>
Toluene	1.50E-04	2.90E-03	2.90E-03	0.21	4.12	4.12	<b>4.12</b>
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.27	1.25	1.25	<b>1.25</b>
Xylene	2.00E-04	2.00E-04	2.00E-04	0.28	0.28	0.28	<b>0.28</b>
<b>Total HAPs</b>							<b>15.13</b>
<b>Worst Single HAP</b>							<b>4.40 (formaldehyde)</b>

**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 (CO<sub>2</sub>e) Emissions from the  
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

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

Maximum Hourly Asphalt Production = 

324
-----

 ton/hr  
 Maximum Annual Asphalt Production = 

2,838,240
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 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)			CO <sub>2</sub> e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO <sub>2</sub>	33	33	33	1	46,830.96	46,830.96	46,830.96	<b>47,188.58</b>
CH <sub>4</sub>	0.0120	0.0120	0.0120	21	17.03	17.03	17.03	
N <sub>2</sub> O				310	0	0	0	
<b>Total</b>					46,847.99	46,847.99	46,847.99	
<b>CO<sub>2</sub>e Equivalent Emissions (tons/yr)</b>					47,188.58	47,188.58	47,188.58	

**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 N<sub>2</sub>O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N<sub>2</sub>O 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 CO<sub>2</sub>e (tons/yr) = Unlimited Potential to Emit CO<sub>2</sub> of "worst case" fuel (ton/yr) x CO<sub>2</sub> GWP (1) + Unlimited Potential to Emit CH<sub>4</sub> of "worst case" fuel (ton/yr) x CH<sub>4</sub> GWP (21) + Unlimited Potential to Emit N<sub>2</sub>O of "worst case" fuel (ton/yr) x N<sub>2</sub>O GWP (310).

**Abbreviations**

CO<sub>2</sub> = Carbon Dioxide

CH<sub>4</sub> = Methane

N<sub>2</sub>O = Nitrogen Dioxide

PTE = Potential to Emit

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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\* = 

1,192,061
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 ton/yr 

1.50
------

 % sulfur  
 Maximum Annual Steel Slag Usage\* = 

1,192,061
-----------

 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	441.06
Steel Slag	0.0014	0.83

**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.

$$\text{Unlimited Potential to Emit SO}_2 \text{ from Slag (tons/yr)} = [(\text{Maximum Annual Slag Usage (ton/yr)}) * [\text{Emission Factor (lb/ton)}] * [\text{ton}/2000 \text{ lbs}]]$$

**Abbreviations**

SO2 = Sulfur Dioxide

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate = 2.34 MMBtu/hr  
 Natural Gas Usage = 0 MMCF/yr  
 No. 2 Fuel Oil Usage = 146,417 gal/yr, and 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0	0.146	0.15
PM10/PM2.5	7.6	3.3	0	0.242	0.24
SO2	0.6	71.0	0	5.198	5.20
NOx	100	20.0	0	1.464	1.46
VOC	5.5	0.20	0	0.015	0.01
CO	84	5.0	0	0.366	0.37
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	5.6E-04	0	4.10E-05	4.1E-05
Beryllium	1.2E-05	4.2E-04	0	3.07E-05	3.1E-05
Cadmium	1.1E-03	4.2E-04	0	3.07E-05	3.1E-05
Chromium	1.4E-03	4.2E-04	0	3.07E-05	3.1E-05
Cobalt	8.4E-05		0		0
Lead	5.0E-04	1.3E-03	0	9.22E-05	9.2E-05
Manganese	3.8E-04	8.4E-04	0	6.15E-05	6.1E-05
Mercury	2.6E-04	4.2E-04	0	3.07E-05	3.1E-05
Nickel	2.1E-03	4.2E-04	0	3.07E-05	3.1E-05
Selenium	2.4E-05	2.1E-03	0	1.54E-04	1.5E-04
Benzene	2.1E-03		0		0
Dichlorobenzene	1.2E-03		0		0
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	0	4.47E-03	4.5E-03
Hexane	1.8E+00		0		0
Phenol					0
Toluene	3.4E-03		0		0
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		2.42E-04	2.4E-04
<b>Total HAPs =</b>			<b>0</b>	<b>5.2E-03</b>	<b>0.005</b>

**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  
 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:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F 111 - 23687 - 03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**Emissions calculated based on output rating (hp)**

Output Horsepower Rating (hp)	430.0	Unlimited Potential Diesel Engine Oil Usage =	192,464	gal/yr
Maximum Operating Hours per Year	8760	Sulfur Content =	0.50	% sulfur
Unlimited Potential Throughput (hp-hr/yr)	3,766,800			

	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	4.09	4.09	4.09	3.82	58.14	4.75	12.52

\*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)							Total PAH HAPs***
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	
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	1.23E-02	5.39E-03	3.76E-03	5.15E-04	<b>0.016</b>	1.01E-02	1.22E-03	2.21E-03

\*\*\*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.

<b>Potential Emission of Total Combined HAPs (tons/yr)</b>	<b>0.051</b>
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**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 (CO<sub>2</sub>e) 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:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F 111 - 23687 - 03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	430.0
Maximum Operating Hours per Year	8760
Potential Throughput (hp-hr/yr)	3,766,800

Diesel Engine Oil Usage <sup>1</sup> =	192,464	gal/yr
Sulfur Content =	0.50	% sulfur

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO <sub>2</sub>	1
Methane	CH <sub>4</sub>	21
Nitrous oxide	N <sub>2</sub> O	310

	Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Emission Factor in lb/kgal	22,472.92	0.91	0.18
Potential Emission in tons/yr	2,162.62	0.09	0.02
Summed Potential Emissions in tons/yr	2,162.72		
CO <sub>2</sub> e Equivalent Emissions (tons/yr)	<b>2,169.83</b>		

**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 CO<sub>2</sub> 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 CH<sub>4</sub> and N<sub>2</sub>O from 40 CFR Part 98 Subpart C, Table C-2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversion

for CO<sub>2</sub>: 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 CH<sub>4</sub> & N<sub>2</sub>O: 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 CO<sub>2</sub>e (tons/yr) = Unlimited Potential to Emit CO<sub>2</sub> (ton/yr) x CO<sub>2</sub> GWP (1) + Unlimited Potential to Emit CH<sub>4</sub> (ton/yr) x CH<sub>4</sub> GWP (21) + Unlimited Potential to Emit N<sub>2</sub>O (ton/yr) x N<sub>2</sub>O GWP (310).

**Appendix A.1: Unlimited Emission Calculations  
Criteria Pollutant and Hazardous Air Pollutant (HAP) Emissions  
from the Diesel Fuel-fired Generator  
Large Reciprocating Internal Combustion Engines  
Output Rating (>600 HP)  
Maximum Input Rate (>4.2 MMBtu/hr)**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**A. Emissions calculated based on heat input capacity (MMBtu/hr)**

Heat Input Capacity	6.2	MMBtu/hr	Unlimited Potential Diesel Engine Oil Usage =	387,693	gal/yr
Maximum Hours Operated per Year	8760		Sulfur Content (S) of Fuel	0.50	% by weight
Potential Throughput	54,277	MMBtu/yr			

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.10	0.0573	0.0573	0.505 (1.01S)	3.2 **see below	0.09	0.85
Potential Emission in tons/yr	2.71	1.56	1.56	13.70	86.84	2.44	23.07

\*No information was given regarding which method was used to determine the PM emission factor or whether condensable PM is included. The PM10 emission factor is filterable and condensable PM10 combined. The PM2.5 emissions were assumed to be equal to PM10.

\*\*NOx emissions: uncontrolled = 3.2 lb/MMBtu, controlled with ignition timing retard = 1.9 lb/MMBtu

**Hazardous Air Pollutants (HAPs)**

	Pollutant						Total PAH HAPs***
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/MMBtu	7.76E-04	2.81E-04	1.93E-04	7.89E-05	2.52E-05	7.88E-06	2.12E-04
Potential Emission in tons/yr	0.021	0.008	0.005	2.14E-03	6.84E-04	2.14E-04	0.006

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

<b>Potential Emission of Total HAPs (tons/yr)</b>	<b>0.043</b>
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**Notes**

Emissions calculations for the diesel-fired generator taken from FESOP SPR No. F005-28174-05323.  
Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4  
To form a conservative estimate, the fuel heating value taken from AP 42 Appendix A (09/85), page A-5, is 140,000 Btu/gal for No. 2 Distillate Fuel oil.

**Methodology**

Potential Throughput (MMBtu/yr) = [Heat Input Capacity (MMBtu/hr)] \* [Maximum Hours Operated per Year]  
Unlimited Potential Diesel Engine Oil Usage (gal/yr) = [Potential Throughput (MMBtu/yr) / (140,000 Btu/gal \* 1 MMBtu /1,000,000 Btu)]  
Potential Emission (tons/yr) = [Potential Throughput (MMBtu/yr)] \* [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]

**Appendix A.1: Unlimited Emissions Calculations  
Greenhouse Gas (CO<sub>2</sub>e) Emissions from the  
Diesel Fuel-fired Generator  
Large Reciprocating Internal Combustion Engines  
Output Rating (>600 HP)  
Maximum Input Rate (>4.2 MMBtu/hr)**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**Emissions calculated based on output rating (hp)**

Heat Input Capacity	6.2	MMBtu/hr	Engine Oil Usage <sup>1</sup> =	387,693	gal/yr
Maximum Hours Operated per Year	8760		Sulfur Content =	0.50	% sulfur
Potential Throughput	54,277	MMBtu/yr			

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO <sub>2</sub>	1
Methane	CH <sub>4</sub>	21
Nitrous oxide	N <sub>2</sub> O	310

	Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Emission Factor in lb/MMBtu	1.65E+02	8.10E-03	1.32E-03
Potential Emission in tons/yr	4,477.85	2.20E-01	3.59E-02
Summed Potential Emissions in tons/yr	4,478.10		
CO <sub>2</sub> e Equivalent Emissions (tons/yr)	<b>4,493.59</b>		

**Notes**

Constant: 1 kilogallon (kgal) = 1000 gallons (gal)  
 Emissions calculations for the diesel-fired generator taken from FESOP SPR No. F005-28174-05323.  
 To form a conservative estimate, the fuel heating value taken from AP 42 Appendix A (09/85), page A-5, is 140,000 Btu/gal for No. 2 Distillate Fuel oil.  
 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 CO<sub>2</sub> from AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1. Emission Factors for CH<sub>4</sub> and N<sub>2</sub>O from 40 CFR Part 98 Subpart C, Table C-2.

**Methodology**

Potential Throughput (MMBtu/yr) = [Heat Input Capacity (MMBtu/hr)] \* [Maximum Hours Operated per Year]  
 Unlimited Potential Diesel Engine Oil Usage (gal/yr) = [Potential Throughput (MMBtu/yr) / (140,000 Btu/gal \* 1 MMBtu /1,000,000 Btu)]  
 Potential Emission (tons/yr) = [Potential Throughput (MMBtu/yr)] \* [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]  
 Unlimited Potential to Emit CO<sub>2</sub>e (tons/yr) = Unlimited Potential to Emit CO<sub>2</sub> (ton/yr) x CO<sub>2</sub> GWP (1) + Unlimited Potential to Emit CH<sub>4</sub> (ton/yr) x CH<sub>4</sub> GWP (21) + Unlimited Potential to Emit N<sub>2</sub>O (ton/yr) x N<sub>2</sub>O GWP (310).

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 =	2,838,240	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.74	0.83	NA	1.57
Organic PM	3.4E-04	2.5E-04	NA	0.48	0.360	NA	0.84
TOC	0.004	0.012	0.001	5.90	17.29	1.561	24.8
CO	0.001	0.001	3.5E-04	1.91	1.675	0.500	4.09

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

PM/HAPs	0.034	0.041	0	0.075
VOC/HAPs	0.087	0.220	0.023	0.330
non-VOC/HAPs	4.5E-04	4.7E-05	1.2E-04	6.2E-04
non-VOC/non-HAPs	0.43	0.24	0.11	0.79

Total VOCs	5.55	17.29	1.5	24.3
Total HAPs	0.12	0.26	0.023	0.41
Worst Single HAP				0.126 (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<sup>-(0.0251)(T+460)-20.43</sup>

Organic PM Ef = 0.00141(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

TOC Ef = 0.0172(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

CO Ef = 0.00558(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

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

PM/PM10 Ef = 0.000332 + 0.00105(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

Organic PM Ef = 0.00105(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

TOC Ef = 0.0504(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

CO Ef = 0.00488(-V)e<sup>-(0.0251)(T+460)-20.43</sup>

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.  
Current Source Location: 3255 W. 650 South, Williamsport, Indiana 47993  
Permit Number: F111-23867-03273  
Revision Number: F171-31109-03273  
Reviewer: Renee Traivaranon  
Date Received: 1/4/2011

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
<b>PAH HAPs</b>										
Acenaphthene	83-32-8	PMHAP	POM	Organic PM	0.26%	0.47%	1.3E-03	1.7E-03	NA	3.0E-03
Acenaphthylene	208-96-8	PMHAP	POM	Organic PM	0.028%	0.014%	1.4E-04	5.0E-05	NA	1.9E-04
Anthracene	120-12-7	PMHAP	POM	Organic PM	0.07%	0.13%	3.4E-04	4.3E-04	NA	8.1E-04
Benzo(a)anthracene	56-55-3	PMHAP	POM	Organic PM	0.019%	0.056%	9.2E-05	2.0E-04	NA	2.9E-04
Benzo(b)fluoranthene	205-99-2	PMHAP	POM	Organic PM	0.0078%	0	3.7E-05	0	NA	3.7E-05
Benzo(k)fluoranthene	207-08-9	PMHAP	POM	Organic PM	0.0022%	0	1.1E-05	0	NA	1.1E-05
Benzo(a)fluorene	191-24-2	PMHAP	POM	Organic PM	0.0019%	0	9.2E-06	0	NA	9.2E-06
Benzo(a)pyrene	50-32-8	PMHAP	POM	Organic PM	0.0023%	0	1.1E-05	0	NA	1.1E-05
Benzo(e)pyrene	192-87-2	PMHAP	POM	Organic PM	0.0078%	0.0095%	3.8E-05	3.4E-05	NA	7.2E-05
Chrysene	218-01-9	PMHAP	POM	Organic PM	0.033%	0.21%	5.0E-04	7.6E-04	NA	1.3E-03
Dibenz(a,h)anthracene	53-70-3	PMHAP	POM	Organic PM	0.00037%	0	1.8E-06	0	NA	1.8E-06
Fluoranthene	206-44-0	PMHAP	POM	Organic PM	0.05%	0.15%	2.4E-04	NA	NA	2.4E-04
Fluorene	86-73-7	PMHAP	POM	Organic PM	0.77%	1.01%	3.7E-03	3.6E-03	NA	7.4E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PMHAP	POM	Organic PM	0.0007%	0	2.3E-06	0	NA	2.3E-06
2-Methylnaphthalene	91-57-6	PMHAP	POM	Organic PM	2.38%	5.27%	1.2E-02	1.9E-02	NA	0.031
Naphthalene	91-20-3	PMHAP	POM	Organic PM	1.25%	1.82%	6.0E-03	6.6E-03	NA	1.3E-02
Phenylene	198-55-0	PMHAP	POM	Organic PM	0.023%	0.03%	1.1E-04	1.1E-04	NA	2.1E-04
Phenanthrene	85-01-8	PMHAP	POM	Organic PM	0.81%	1.80%	3.9E-03	6.5E-03	NA	1.0E-02
Pyrene	129-00-0	PMHAP	POM	Organic PM	0.15%	0.44%	7.3E-04	1.6E-03	NA	2.3E-03
<b>Total PAH HAPs</b>							<b>0.029</b>	<b>0.041</b>	<b>NA</b>	<b>0.069</b>
<b>Other semi-volatile HAPs</b>										
Phenol		PMHAP	---	Organic PM	1.18%	0	5.7E-03	0	0	5.7E-03

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

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

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

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>			---	TOC	94%	100%	<b>5.55</b>	<b>17.29</b>	<b>1.47</b>	<b>24.31</b>
<b>non-VOC/non-HAPs</b>										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	3.8E-01	4.5E-02	1.0E-01	0.530
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	2.7E-03	9.5E-03	7.2E-04	0.013
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	4.2E-02	1.9E-01	1.1E-02	0.243
<b>Total non-VOC/non-HAPs</b>					7.30%	1.40%	<b>0.431</b>	<b>0.242</b>	<b>0.114</b>	<b>0.79</b>
<b>Volatile organic HAPs</b>										
Benzene	71-43-2	VOCHAP	---	TOC	0.052%	0.032%	3.1E-03	5.5E-03	8.1E-04	9.4E-03
Bromomethane	74-83-9	VOCHAP	---	TOC	0.006%	0.004%	5.7E-04	8.5E-04	1.5E-04	1.9E-03
2-Butanone	78-93-3	VOCHAP	---	TOC	0.049%	0.039%	2.9E-03	6.7E-03	7.6E-04	1.0E-02
Carbon Disulfide	75-15-0	VOCHAP	---	TOC	0.013%	0.016%	7.7E-04	2.8E-03	2.0E-04	3.7E-03
Chloroethane	75-00-3	VOCHAP	---	TOC	0.0021%	0.004%	1.2E-05	6.9E-04	3.3E-06	7.1E-04
Chloromethane	74-87-3	VOCHAP	---	TOC	0.015%	0.023%	8.9E-04	4.0E-03	2.3E-04	5.1E-03
Cumene	92-82-8	VOCHAP	---	TOC	0.11%	0	6.5E-03	0	1.7E-03	8.2E-03
Ethylbenzene	100-41-4	VOCHAP	---	TOC	0.28%	0.38%	1.7E-02	6.6E-03	4.4E-03	0.027
Formaldehyde	50-00-0	VOCHAP	---	TOC	0.028%	0.68%	5.2E-03	1.2E-01	1.4E-03	0.126
n-Hexane	100-54-3	VOCHAP	---	TOC	0.15%	0.10%	8.9E-03	1.7E-02	2.3E-03	0.028
Isooctane	540-84-1	VOCHAP	---	TOC	0.0018%	0.00031%	1.1E-04	5.4E-05	2.8E-05	1.9E-04
Methylene Chloride	75-09-2	non-VOCHAP	---	TOC	0	0.00027%	0	4.7E-05	0	4.7E-05
MTBE	1634-04-4	VOCHAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOCHAP	---	TOC	0.0073%	0.0054%	4.3E-04	9.3E-04	1.1E-04	1.5E-03
Tetrachloroethene	127-18-4	non-VOCHAP	---	TOC	0.0077%	0	4.5E-04	0	1.2E-04	5.7E-04
Toluene	100-98-3	VOCHAP	---	TOC	0.21%	0.62%	1.2E-02	1.1E-02	3.3E-03	0.026
1,1,1-Trichloroethane	71-55-6	VOCHAP	---	TOC	0	0	0	0	0	0
Trichloroethane	79-01-6	VOCHAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOCHAP	---	TOC	0.013%	0	7.7E-05	0	2.0E-05	9.7E-05
m,p-Xylene	1330-20-7	VOCHAP	---	TOC	0.41%	0.20%	2.4E-02	3.5E-02	8.4E-03	0.065
o-Xylene	95-47-6	VOCHAP	---	TOC	0.08%	0.057%	4.7E-03	9.9E-03	1.2E-03	1.6E-02
<b>Total volatile organic HAPs</b>					1.50%	1.30%	<b>0.089</b>	<b>0.225</b>	<b>0.023</b>	<b>0.337</b>

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

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

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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.

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

where  $E_f$  = emission factor (lb/acre/day)  
 $s$  = silt content (wt %)  
 $p$  = 125 days of rain greater than or equal to 0.01 inches  
 $f$  = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.80	0.439	0.154
Limestone	1.6	1.85	1.30	0.439	0.154
RAP	0.5	0.58	1.40	0.148	0.052
Gravel	1.6	1.85	1.20	0.406	0.142
Slag	3.8	4.40	1.00	0.803	0.281
Shingles	3.8	4.40	0.40	0.321	0.112
<b>Totals</b>				<b>2.56</b>	<b>0.89</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

$$Ef = k \cdot (0.0032)^M \cdot [(U/5)^{1.3} / (M/2)^{1.4}]$$
 where: Ef = Emission factor (lb/ton)

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

Ef (PM) = 2.27E-03 lb PM/ton of material handled  
 Ef (PM10) = 1.07E-03 lb PM10/ton of material handled  
 Ef (PM2.5) = 1.62E-04 lb PM2.5/ton of material handled

Maximum Annual Asphalt Production = 2,838,240 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Material Handling Throughput = 2,696,328 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	3.06	1.45	0.22
Front-end loader dumping of materials into feeder bins	3.06	1.45	0.22
Conveyor dropping material into dryer/mixer or batch tower	3.06	1.45	0.22
<b>Total (tons/yr)</b>	<b>9.17</b>	<b>4.34</b>	<b>0.66</b>

**Methodology**

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

**Material Screening and Conveying (AP-42 Section 11.19.2)**

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	7.28	3.24
Screening	0.025	0.0087	33.70	11.73
Conveying	0.003	0.0011	4.04	1.48
<b>Unlimited Potential to Emit (tons/yr) =</b>			<b>45.03</b>	<b>16.45</b>

**Methodology**

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

**Abbreviations**

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

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 660 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivanon  
**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	2,838,240	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	2,696,328	tons/yr
Maximum Asphalt Cement/Binder Throughput	141,912	tons/yr
Maximum No. 2 Fuel Oil Usage	6,382,286	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	1.2E+05	4.7E+06	300	0.057	6,839.31
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	1.2E+05	2.0E+06	300	0.057	6,839.31
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	3.9E+03	1.9E+05	300	0.06	223.98
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	3.9E+03	4.7E+04	300	0.06	223.98
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	6.7E+02	3.0E+04	300	0.06	38.30
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	6.7E+02	8.1E+03	300	0.06	38.30
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	6.4E+05	1.2E+07	300	0.057	36,478.30
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	6.4E+05	9.6E+06	300	0.057	36,478.30
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.2E+05	4.8E+06	300	0.057	6,719.32
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.2E+05	2.0E+06	300	0.057	6,719.32
<b>Total</b>					<b>1.8E+06</b>	<b>3.6E+07</b>			<b>1.0E+05</b>

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

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

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

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

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

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	20.84	5.31	0.53	13.70	3.49	0.35	6.85	1.75	0.17
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	20.84	5.31	0.53	13.70	3.49	0.35	6.85	1.75	0.17
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.683	0.174	0.02	0.449	0.114	0.01	0.224	0.057	0.01
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.683	0.174	0.02	0.449	0.114	0.01	0.224	0.057	0.01
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.117	0.030	0.00	0.077	0.020	0.00	0.038	0.010	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.117	0.030	0.00	0.077	0.020	0.00	0.038	0.010	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	111.16	28.33	2.83	73.09	18.63	1.86	36.55	9.31	0.93
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	111.16	28.33	2.83	73.09	18.63	1.86	36.55	9.31	0.93
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	20.48	5.22	0.52	13.46	3.43	0.34	6.73	1.72	0.17
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	20.48	5.22	0.52	13.46	3.43	0.34	6.73	1.72	0.17
<b>Totals</b>		<b>306.56</b>	<b>78.13</b>	<b>7.81</b>	<b>201.57</b>	<b>51.37</b>	<b>5.14</b>	<b>100.79</b>	<b>25.69</b>	<b>2.57</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 = 2,838,240 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Material Handling Throughput = 2,696,328 tons/yr  
 Maximum Asphalt Cement/Binder Throughput = 141,912 tons/yr  
 Maximum No. 2 Fuel Oil Usage = 6,382,286 gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons/trip)	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	1.2E+05	4.7E+06	300	0.057	6,839.31
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	1.2E+05	2.0E+06	300	0.057	6,839.31
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	3.9E+03	1.9E+05	300	0.057	223.98
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	3.9E+03	4.7E+04	300	0.057	223.98
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	6.7E+02	3.0E+04	300	0.057	38.30
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	6.7E+02	8.1E+03	300	0.057	38.30
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	6.4E+05	1.2E+07	300	0.057	36,476.30
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	6.4E+05	9.6E+06	300	0.057	36,476.30
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	1.2E+05	4.8E+06	300	0.057	6,719.32
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	1.2E+05	2.0E+06	300	0.057	6,719.32
<b>Total</b>					<b>1.8E+06</b>	<b>3.6E+07</b>			<b>1.0E+05</b>

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

Unmitigated Emission Factor, Ef = k \* (sL)<sup>0.91</sup> \* (W)<sup>1.02</sup> (Equation 1 from AP-42 13.2.1)

where k = 

PM	PM10	PM2.5
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<sup>2</sup> = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

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

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

Unmitigated Emission Factor, Ef = 

PM	PM10	PM2.5
0.15	0.03	0.01

 lb/mile  
 Mitigated Emission Factor, Eext = 

PM	PM10	PM2.5
0.14	0.03	0.01

 lb/mile  
 Dust Control Efficiency = 

PM	PM10	PM2.5
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)	0.51	0.10	0.02	0.47	0.09	0.02	0.23	0.05	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.51	0.10	0.02	0.47	0.09	0.02	0.23	0.05	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.017	0.003	8.2E-04	0.015	0.003	7.5E-04	0.008	1.5E-03	3.7E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.017	0.003	8.2E-04	0.015	0.003	7.5E-04	0.008	1.5E-03	3.7E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	2.8E-03	5.7E-04	1.4E-04	2.6E-03	5.2E-04	1.3E-04	1.3E-03	2.6E-04	6.4E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	2.8E-03	5.7E-04	1.4E-04	2.6E-03	5.2E-04	1.3E-04	1.3E-03	2.6E-04	6.4E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	2.71	0.54	0.13	2.48	0.50	0.12	1.24	0.25	0.06
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	2.71	0.54	0.13	2.48	0.50	0.12	1.24	0.25	0.06
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.50	0.10	0.02	0.46	0.09	0.02	0.23	0.05	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.50	0.10	0.02	0.46	0.09	0.02	0.23	0.05	0.01
<b>Totals</b>		<b>7.48</b>	<b>1.50</b>	<b>0.37</b>	<b>6.84</b>	<b>1.37</b>	<b>0.34</b>	<b>3.42</b>	<b>0.68</b>	<b>0.17</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 = 2,838,240 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Asphalt Cement/Binder Throughput = 141,912 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%	35,903.74	34,108.55
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	40,586.83	28,410.78
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	28,382.40	7,095.60
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	21,286.80	9,877.08
Other asphalt with solvent binder	25.9%	2.5%	36,755.21	918.88
<b>Worst Case PTE of VOC =</b>				<b>34,108.55</b>

**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
<b>PTE of Total HAPs (tons/yr) =</b>	<b>8,896.77</b>
<b>PTE of Single HAP (tons/yr) =</b>	<b>3,069.77 Xylenes</b>

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

	CAS#	Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
		Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
Volatile Organic HAP						
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-6%	
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%	
<b>Total Organic HAPs</b>		<b>26.08%</b>	<b>0.33%</b>	<b>1.29%</b>	<b>0.68%</b>	<b>0.19%</b>
<b>Worst Single HAP</b>		<b>9.00%</b>	<b>0.31%</b>	<b>0.50%</b>	<b>0.23%</b>	<b>0.07%</b>
		<b>Xylenes</b>	<b>Naphthalene</b>	<b>Xylenes</b>	<b>Xylenes</b>	<b>Chrysene</b>

**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/tp.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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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:

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

**Volatile Organic Compounds**

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0
Tank breathing and emptying	1.0	0
Vehicle refueling (displaced losses - controlled)	1.1	0
Spillage	0.7	0
<b>Total</b>		<b>0</b>

**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
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>0</b>
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>0 Xylenes</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**Asphalt Plant Limitations - Drum Mix**

Maximum Hourly Asphalt Production =	324	ton/hr								
Annual Asphalt Production Limitation =	1,000,000	ton/yr								
Blast Furnace Slag Usage Limitation =	50,000	ton/yr	1.50	% sulfur						
Steel Slag Usage Limitation =	1,000,000		0.66	% sulfur						
Natural Gas Limitation =	325.0	MMCF/yr								
No. 2 Fuel Oil Limitation =	1,695,243	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 =	4,730,811	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	1,091,721	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead
Generator Distillate Fuel Oil Limitation =	65,000	gal/yr, and	0.50	% sulfur						
Terex Distillate Fuel Oil Limitation =	192,464	gal/yr, and	0.50	% sulfur						
PM Dryer/Mixer Limitation =	0.365	lb/ton of asphalt production								
PM10 Dryer/Mixer Limitation =	0.155	lb/ton of asphalt production								
PM2.5 Dryer/Mixer Limitation =	0.174	lb/ton of asphalt production								
SO2 Dryer/Mixer Limitation =	0.058	lb/ton of asphalt production								
NOx Dryer/Mixer Limitation =	0.055	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 =	60.55	tons/yr								
HCl Limitation =	13.2	lb/kgal								

**Limited/Controlled Emissions**

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO <sub>2</sub> e	Total HAPs	Worst Case HAP
<b>Ducted Emissions</b>										
Dryer Fuel Combustion (worst case)	35.63	28.40	28.40	60.18	30.88	2.37	17.74	30,257.41	8.00	7.21 (hydrogen chloride)
Dryer/Mixer (Process)	182.69	77.38	86.82	29.00	27.50	16.00	65.00	16,626.00	5.33	1.55 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	18.50	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.15	0.24	0.24	5.20	1.46	0.01	0.37	1,654.60	0.005	0.004 (formaldehyde)
Genset Generator Fuel Combustion	0.46	0.26	0.26	2.30	8.65	0.41	3.87	753.39	0.007	0.004 (benzene)
Terex Crusher Fuel Combustion *	4.09	4.09	4.09	3.82	58.14	4.75	12.52	2,169.83	0.05	0.02 (formaldehyde)
<b>Worst Case Emissions**</b>	<b>187.38</b>	<b>81.97</b>	<b>91.41</b>	<b>90.00</b>	<b>99.12</b>	<b>21.17</b>	<b>81.76</b>	<b>34,835.23</b>	<b>8.06</b>	<b>7.21 (hydrogen chloride)</b>
<b>Fugitive Emissions</b>										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.55	0.55	0.55	0	0	8.57	1.44	0	0.14	0.04 (formaldehyde)
Material Storage Piles	2.56	0.89	0.89	0	0	0	0	0	0	0
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	35.50	9.05	0.90	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	60.55	0	0	15.79	5.45 (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
<b>Total Fugitive Emissions</b>	<b>57.71</b>	<b>17.82</b>	<b>8.38</b>	<b>0</b>	<b>0</b>	<b>69.12</b>	<b>1.44</b>	<b>0</b>	<b>15.94</b>	<b>5.45 (xylenes)</b>
<b>Totals Limited/Controlled Emissions</b>	<b>245.09</b>	<b>99.79</b>	<b>99.79</b>	<b>90.00</b>	<b>99.12</b>	<b>90.29</b>	<b>83.20</b>	<b>34,835.23</b>	<b>24.00</b>	<b>7.21 (hydrogen chloride)</b>

negl = negligible N/A = not applicable.

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

Fuel component percentages provided by the source.

\* 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 applicability.

\*\* 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

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 =	324	ton/hr
Annual Asphalt Production Limitation =	1,000,000	ton/yr
Natural Gas Limitation =	325	MMCF/yr
No. 2 Fuel Oil Limitation =	1,695,243	gal/yr, and
No. 4 Fuel Oil Limitation =	0	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and
Propane Limitation =	4,730,811	gal/yr, and
Butane Limitation =	0	gal/yr, and
Used/Waste Oil Limitation =	1,091,721	gal/yr, and

0.50	% sulfur
0	% sulfur
0	% sulfur
0.20	gr/100 ft3 sulfur
0	gr/100 ft3 sulfur
0.75	% sulfur
1.02	% ash
0.20	% chlorine
0.010	% lead

**Limited Emissions**

Criteria Pollutant	Emission Factor (units)								Limited Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	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	0.31	1.70	0	0	1.18	0	35.63	35.63	
PM10	7.6	3.3	8.3	4.72	0.5	0.6	52.02	1.24	2.80	0	0	1.18	0	28.40	28.40	
SO2	0.6	71.0	0	0	0.02	0	110.3	0.10	60.18	0	0	0.05	0	60.18	60.18	
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	30.88	20.34	0	0	30.75	0	10.37	30.88	
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	0.89	0.17	0	0	2.37	0	0.55	2.37	
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	13.65	4.24	0	0	17.74	0	2.73	17.74	
<b>Hazardous Air Pollutant</b>																
HCl							13.2							7.21	7.21	
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	3.25E-05	4.75E-04	0	0			6.00E-02	0.06	
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	1.95E-06	3.56E-04	0	0			negl	3.6E-04	
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	1.79E-04	3.56E-04	0	0			5.08E-03	5.1E-03	
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	2.28E-04	3.56E-04	0	0			1.09E-02	0.01	
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	1.37E-05		0	0			1.15E-04	1.1E-04	
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	8.13E-05	1.07E-03	0	0			3.0E-01	0.30	
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	6.18E-05	7.12E-04	0	0			3.71E-02	0.04	
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				4.23E-05	3.56E-04	0	0				3.6E-04	
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	3.41E-04	3.56E-04	0	0			6.00E-03	0.01	
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	3.90E-06	1.78E-03	0	0			negl	1.8E-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				3.41E-04		0	0				3.4E-04	
Bis(2-ethylhexyl)phthalate							2.2E-03							1.20E-03	1.2E-03	
Dichlorobenzene	1.2E-03						8.0E-07	1.95E-04						4.37E-07	2.0E-04	
Ethylbenzene			6.36E-05	6.36E-05						0	0				0	
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				1.22E-02	5.17E-02	0	0				0.05	
Hexane	1.8E+00							2.93E-01							0.29	
Phenol							2.4E-03							1.31E-03	1.3E-03	
Toluene	3.4E-03		6.20E-03	6.20E-03				5.53E-04		0	0				5.5E-04	
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0	0			2.13E-02	0.02	
Polycyclic Organic Matter		3.30E-03							2.80E-03	0	0				2.8E-03	
Xylene			1.09E-04	1.09E-04											0	
<b>Total HAPs</b>								<b>0.31</b>	<b>0.06</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7.65</b>	<b>8.00</b>	

**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  
 HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride  
 PAH = Polyaromatic Hydrocarbon  
 CO = Carbon Monoxide

\*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 (CO<sub>2</sub>e) Emissions from the  
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 =	324	ton/hr								
Annual Asphalt Production Limitation =	1,000,000	ton/yr								
Natural Gas Limitation =	325	MMCF/yr								
No. 2 Fuel Oil Limitation =	1,695,243	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 =	4,730,811	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	1,091,721	gal/yr, and	0.75	% sulfur	1.02	% ash	0.20	% chlorine,	0.010	% lead

**Limited Emissions**

CO <sub>2</sub> e Fraction	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO <sub>2</sub>	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO <sub>2</sub>	1
CH <sub>4</sub>	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH <sub>4</sub>	21
N <sub>2</sub> O	2.20	0.26	0.19	0.53	0.90	0.90	0.18	Nitrous oxide	N <sub>2</sub> O	310

CO <sub>2</sub> e Fraction	Limited Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO <sub>2</sub>	19,526.39	19,072.68	0	0	29,567.57	0	12,022.12
CH <sub>4</sub>	0.41	0.77	0	0	1.42	0	0.49
N <sub>2</sub> O	0.36	0.22	0	0	2.13	0	0.10
<b>Total</b>	<b>19,527.15</b>	<b>19,073.68</b>	<b>0</b>	<b>0</b>	<b>29,571.12</b>	<b>0</b>	<b>12,022.71</b>

<b>CO<sub>2</sub>e for Worst Case Fuel* (tons/yr)</b>
<b>30,257.41</b>

CO <sub>2</sub> e Equivalent Emissions (tons/yr)	19,645.72	19,157.25	0	0	30,257.41	0	12,062.81
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**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 CO<sub>2</sub> and CH<sub>4</sub> from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N<sub>2</sub>O from AP-42 Chapter 1.4

No. 2 Fuel Oil: Emission Factors for CO<sub>2</sub> and CH<sub>4</sub> from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N<sub>2</sub>O from AP-42 Chapter 1.3

No.4 Fuel Oil: Emission Factors for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O 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 CO<sub>2</sub> and CH<sub>4</sub> from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N<sub>2</sub>O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Propane and Butane: Emission Factors for CO<sub>2</sub> and CH<sub>4</sub> from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N<sub>2</sub>O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Waste Oil: Emission Factors for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O 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 CO<sub>2</sub>e Emissions (tons/yr) = CO<sub>2</sub> Potential Emission of "worst case" fuel (ton/yr) x CO<sub>2</sub> GWP (1) + CH<sub>4</sub> Potential Emission of "worst case" fuel (ton/yr) x CH<sub>4</sub> GWP (21) + N<sub>2</sub>O Potential Emission of "worst case" fuel (ton/yr) x N<sub>2</sub>O GWP (310).

**Abbreviations**

CH<sub>4</sub> = Methane

CO<sub>2</sub> = Carbon Dioxide

N<sub>2</sub>O = Nitrogen Dioxide

PTE = Potential to Emit

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

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

Maximum Hourly Asphalt Production = 324 ton/hr  
 Annual Asphalt Production Limitation = 1,000,000 ton/yr  
 PM Dryer/Mixer Limitation = 0.365 lb/ton of asphalt production  
 PM10 Dryer/Mixer Limitation = 0.155 lb/ton of asphalt production  
 PM2.5 Dryer/Mixer Limitation = 0.174 lb/ton of asphalt production  
 CO Dryer/Mixer Limitation = 0.130 lb/ton of asphalt production  
 VOC Dryer/Mixer Limitation = 0.032 lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	0.365	0.365	0.365	182.69	182.69	182.69	182.69
PM10*	0.155	0.155	0.155	77.38	77.38	77.38	77.38
PM2.5*	0.174	0.174	0.174	86.82	86.82	86.82	86.82
SO2**	0.003	0.011	0.058	1.70	5.50	29.00	29.00
NOx**	0.026	0.055	0.055	13.00	27.50	27.50	27.50
VOC**	0.032	0.032	0.032	16.00	16.00	16.00	16.00
CO***	0.130	0.130	0.130	65.00	65.00	65.00	65.00
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04			0.11	0.11
Antimony	1.80E-07	1.80E-07	1.80E-07	9.00E-05	9.00E-05	9.00E-05	9.00E-05
Arsenic	5.60E-07	5.60E-07	5.60E-07	2.80E-04	2.80E-04	2.80E-04	2.80E-04
Beryllium	negl	negl	negl	negl	negl	negl	0
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.05E-04	2.05E-04	2.05E-04	2.05E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	2.75E-03	2.75E-03	2.75E-03	2.75E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.30E-05	1.30E-05	1.30E-05	1.30E-05
Lead	6.20E-07	1.50E-05	1.50E-05	3.10E-04	7.50E-03	7.50E-03	7.50E-03
Manganese	7.70E-06	7.70E-06	7.70E-06	3.85E-03	3.85E-03	3.85E-03	3.85E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	1.20E-04	1.30E-03	1.30E-03	1.30E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	3.15E-02	3.15E-02	3.15E-02	0.03
Selenium	3.50E-07	3.50E-07	3.50E-07	1.75E-04	1.75E-04	1.75E-04	1.75E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0	2.00E-02	2.00E-02	0.02
Acetaldehyde			1.30E-03			0.65	0.65
Acrolein			2.60E-05			1.30E-02	0.01
Benzene	3.90E-04	3.90E-04	3.90E-04	0.20	0.20	0.20	0.20
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.12	0.12	0.12	0.12
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	1.55	1.55	1.55	1.55
Hexane	9.20E-04	9.20E-04	9.20E-04	0.46	0.46	0.46	0.46
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.02	0.02	0.02	0.02
MEK			2.00E-05			0.01	0.01
Propionaldehyde			1.30E-04			0.07	0.07
Quinone			1.60E-04			0.08	0.08
Toluene	1.50E-04	2.90E-03	2.90E-03	0.08	1.45	1.45	1.45
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.10	0.44	0.44	0.44
Xylene	2.00E-04	2.00E-04	2.00E-04	0.10	0.10	0.10	0.10

**Total HAPs 5.33**

**Worst Single HAP 1.55 (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  
 HCl = Hydrogen Chloride  
 SO2 = Sulfur Dioxide  
 HAP = Hazardous Air Pollutant  
 PAH = Polyaromatic Hydrocarbon

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

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

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

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Greenhouse Gas Global Warming Potentials (GWP)	Limited Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO2e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO2	33	33	33	1	16,500.00	16,500.00	16,500.00	<b>16,626.00</b>
CH4	0.0120	0.0120	0.0120	21	6.00	6.00	6.00	
N2O				310	0	0	0	
				Total	16,506.00	16,506.00	16,506.00	
<b>CO2e Equivalent Emissions (tons/yr)</b>					16,626.00	16,626.00	16,626.00	

**Methodology**

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

There are no emission factors for N2O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N2O 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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 =	1,000,000	ton/yr	0.66	% sulfur

Type of Slag	SO <sub>2</sub> Emission Factor (lb/ton)*	Limited Potential to Emit SO <sub>2</sub> (tons/yr)
Blast Furnace Slag	0.7400	18.5
Steel Slag	0.0014	0.70

### 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 SO<sub>2</sub> from Slag (tons/yr) = [(Limited Slag Usage (ton/yr)) \* [Emission Factor (lb/ton)] \* [ton/2000 lbs]

### Abbreviations

SO<sub>2</sub> = 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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate = 2.34 MMBtu/hr  
 Natural Gas Usage = 0 MMCF/yr  
 No. 2 Fuel Oil Usage = 146.417 gal/yr, and 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0	0.146	0.15
PM10/PM2.5	7.6	3.3	0	0.242	0.24
SO2	0.6	71.0	0	5.198	5.20
NOx	100	20.0	0	1.464	1.46
VOC	5.5	0.20	0	0.015	0.015
CO	84	5.0	0	0.366	0.37
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	5.6E-04	0	4.10E-05	4.1E-05
Beryllium	1.2E-05	4.2E-04	0	3.07E-05	3.1E-05
Cadmium	1.1E-03	4.2E-04	0	3.07E-05	3.1E-05
Chromium	1.4E-03	4.2E-04	0	3.07E-05	3.1E-05
Cobalt	8.4E-05		0		0
Lead	5.0E-04	1.3E-03	0	9.22E-05	9.2E-05
Manganese	3.8E-04	8.4E-04	0	6.15E-05	6.1E-05
Mercury	2.6E-04	4.2E-04	0	3.07E-05	3.1E-05
Nickel	2.1E-03	4.2E-04	0	3.07E-05	3.1E-05
Selenium	2.4E-05	2.1E-03	0	1.54E-04	1.5E-04
Benzene	2.1E-03		0		0
Dichlorobenzene	1.2E-03		0		0
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	0	4.47E-03	0.004
Hexane	1.8E+00		0		0
Phenol					0
Toluene	3.4E-03		0		0
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		2.42E-04	2.4E-04
<b>Total HAPs =</b>			<b>0</b>	<b>5.2E-03</b>	<b>0.005</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

Maximum Hot Oil Heater Fuel Input Rate = 

2.34
------

 MMBtu/hr  
 Natural Gas Usage = 

0
---

 MMCF/yr  
 No. 2 Fuel Oil Usage = 

146,417
---------

 gal/yr, 

0.50
------

 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Greenhouse Gas Global Warming Potentials (GWP)	to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO2	120,161.84	22,501.41	1	0	1,647.30
CH4	2.49	0.91	21	0	6.68E-02
N2O	2.20	0.26	310	0	1.90E-02
<b>Total</b>				<b>0</b>	<b>1,647.38</b>

<b>Worse Case CO2e Emissions (tons/yr)</b>
<b>1,654.60</b>

CO2e Equivalent Emissions (tons/yr)		0	1,654.60
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**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:  $EF \text{ (lb/MMCF)} = [EF \text{ (kg/MMBtu)} * \text{Conversion Factor (2.20462 lbs/kg)} * \text{Heating Value of Natural Gas (MMBtu/scf)} * \text{Conversion Factor (1,000,000 scf/MMCF)}]$

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

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:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F 111 - 23687 - 03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**Emissions calculated based on fuel usage limit (gal/yr):**

Output Horsepower Rating (hp)	430.0	Diesel Engine Oil Usage =	192,464 gal/yr
Maximum Operating Hours per Year	8760	Sulfur Content =	0.50 % sulfur
Limited Potential Throughput (hp-hr/yr)	3,766,800		

	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	4.09	4.09	4.09	3.82	58.14	4.75	12.52

\*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	1.23E-02	5.39E-03	3.76E-03	5.15E-04	<b>1.56E-02</b>	1.01E-02	1.22E-03	2.21E-03

\*\*\*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.

<b>Potential Emission of Total Combined HAPs (tons/yr)</b>	<b>0.051</b>
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**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

<sup>1</sup>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 (CO<sub>2</sub>e) 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:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F 111 - 23687 - 03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**Emissions calculated based on fuel usage limit (gal/yr):**

Diesel Engine Oil Usage<sup>1</sup> =  gal/yr      Sulfur Content =  % sulfur

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO <sub>2</sub>	1
Methane	CH <sub>4</sub>	21
Nitrous oxide	N <sub>2</sub> O	310

	Limited Potential to Emit (tons/yr)		
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Emission Factor in lb/kgal	22,472.92	0.91	0.18
Potential Emission in tons/yr	2,162.62	0.09	0.02
Summed Potential Emissions in tons/yr	2,162.72		
CO <sub>2</sub> e Equivalent Emissions (tons/yr) *	2,169.83		

**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 CO<sub>2</sub> 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 CH<sub>4</sub> and N<sub>2</sub>O from 40 CFR Part 98 Subpart C, Table C-2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversion

for CO<sub>2</sub>: 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 CH<sub>4</sub> & N<sub>2</sub>O: 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)]

<sup>1</sup>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 CO<sub>2</sub>e emissions from the dryer mixer burner, hot oil heaters, diesel fuel-fired portable crusher, and dryer mixer process, such that the CO<sub>2</sub>e 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 CO<sub>2</sub>e Emissions (tons/yr) = CO<sub>2</sub> Potential Emission (ton/yr) x CO<sub>2</sub> GWP (1) + CH<sub>4</sub> Potential Emission (ton/yr) x CH<sub>4</sub> GWP (21) + N<sub>2</sub>O Potential Emission (ton/yr) x N<sub>2</sub>O GWP (310).

**Appendix A.2: Limited Emission Calculations**  
**Criteria Pollutant and Hazardous Air Pollutant (HAP) Emissions**  
**Diesel Fuel-fired Generator**  
**Large Reciprocating Internal Combustion Engines**  
**Output Rating (>600 HP)**  
**Maximum Input Rate (>4.2 MMBtu/hr)**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

**A. Emissions calculated based on heat input capacity (MMBtu/hr)**

Diesel Engine Oil Usage Limitation =	65,000	gal/yr
Limited Throughput =	9,100	MMBtu/yr
Sulfur Content (S) of Fuel =	0.50	% by weight

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.10	0.0573	0.0573	0.505 (1.01S)	1.9 **see below	0.09	0.85
Potential Emission in tons/yr	0.46	0.26	0.26	2.30	8.65	0.41	3.87

\*No information was given regarding which method was used to determine the PM emission factor or whether condensable PM is included. The PM10 emission factor is filterable and condensable PM10 combined. The PM2.5 emissions were assumed to be equal to PM10.

\*\*NOx emissions: uncontrolled = 3.2 lb/MMBtu, controlled with ignition timing retard = 1.9 lb/MMBtu  
This source has ignition timing retard control device; therefore, emission factor of 1.9 was applied.

**Hazardous Air Pollutants (HAPs)**

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/MMBtu	7.76E-04	2.81E-04	1.93E-04	7.89E-05	2.52E-05	7.88E-06	2.12E-04
Potential Emission in tons/yr	<b>0.004</b>	0.001	0.001	3.59E-04	1.15E-04	3.59E-05	0.001

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

<b>Potential Emission of Total HAPs (tons/yr)</b>	<b>0.007</b>
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**Notes**

Emissions calculations for the diesel-fired generator taken from FESOP SPR No. F005-28174-05323.

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4

To form a conservative estimate, the fuel heating value taken from AP 42 Appendix A (09/85), page A-5, is 140,000 Btu/gal for No. 2 Distillate Fuel oil.

**Methodology**

Limited Throughput (MMBtu/yr) = [Diesel Engine Oil Usage Limitation (gal/yr) \* (140,000 Btu/gal \* 1 MMBtu/1,000,000 Btu)]

Limited Emissions (tons/yr) = [Limited Throughput (MMBtu/yr)] \* [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]

**Appendix A.2: Limited Emissions Calculations  
Greenhouse Gas (CO<sub>2</sub>e) Emissions from the  
Diesel Fuel-fired Generator  
Large Reciprocating Internal Combustion Engines  
Output Rating (>600 HP)  
Maximum Input Rate (>4.2 MMBtu/hr)**

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**Date Received:** 11/4/2011

Emissions calculated based on output rating (hp)

Diesel Engine Oil Usage <sup>1</sup> =	65,000	gal/yr
Limited Throughput =	9,100	MMBtu/yr
Sulfur Content =	0.50	% sulfur

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO <sub>2</sub>	1
Methane	CH <sub>4</sub>	21
Nitrous oxide	N <sub>2</sub> O	310

	Limited/Uncontrolled Potential to Emit (tons/yr)		
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Emission Factor in lb/MMBtu	1.65E+02	8.10E-03	1.32E-03
Limited Potential Emission in tons/yr	750.75	3.69E-02	6.02E-03
Summed Limited Potential Emissions in tons/yr	750.79		
CO <sub>2</sub> e Equivalent Emissions (tons/yr)	<b>753.39</b>		

**Notes**

Constant: 1 kilogallon (kgal) = 1000 gallons (gal)

To form a conservative estimate, the fuel heating value taken from AP 42 Appendix A (09/85), page A-5, is 140,000 Btu/gal for No.2 Distillate Fuel oil. 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 CO<sub>2</sub> from AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1. Emission Factors for CH<sub>4</sub> and N<sub>2</sub>O from 40 CFR Part 98 Subpart C, Table C-2.

**Methodology**

Limited Throughput (MMBtu/yr) = [Diesel Engine Oil Usage Limitation (gal/yr) \* (140,000 Btu/gal \* 1 MMBtu/1,000,000 Btu)]

Limited Emissions (tons/yr) = [Limited Throughput (MMBtu/yr)] \* [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]

Limited Potential to Emit CO<sub>2</sub>e (tons/yr) = Limited Potential to Emit CO<sub>2</sub> (ton/yr) x CO<sub>2</sub> GWP (1) + Limited Potential to Emit CH<sub>4</sub> (ton/yr) x CH<sub>4</sub> GWP (21) + Limited Potential to Emit N<sub>2</sub>O (ton/yr) x N<sub>2</sub>O GWP (310).

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 =	1,000,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.26	0.29	NA	<b>0.55</b>
Organic PM	3.4E-04	2.5E-04	NA	0.17	0.127	NA	<b>0.30</b>
TOC	0.004	0.012	0.001	2.08	6.09	0.550	<b>8.7</b>
CO	0.001	0.001	3.5E-04	0.67	0.590	0.176	<b>1.44</b>

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

<b>PM/HAPs</b>	<b>0.012</b>	<b>0.014</b>	<b>0</b>	<b>0.027</b>
<b>VOC/HAPs</b>	<b>0.031</b>	<b>0.077</b>	<b>0.008</b>	<b>0.116</b>
<b>non-VOC/HAPs</b>	<b>1.6E-04</b>	<b>1.6E-05</b>	<b>4.2E-05</b>	<b>2.2E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.15</b>	<b>0.09</b>	<b>0.04</b>	<b>0.28</b>

<b>Total VOCs</b>	<b>1.95</b>	<b>6.09</b>	<b>0.5</b>	<b>8.6</b>
<b>Total HAPs</b>	<b>0.04</b>	<b>0.09</b>	<b>0.008</b>	<b>0.14</b>
	<b>Worst Single HAP</b>			<b>0.044</b>
				<b>(formaldehyde)</b>

**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.  
Current Source Location: 3255 W. 650 South, Williamsport, Indiana 47993  
Permit Number: F111-23887-03273  
Revision Number: F171-31109-03273  
Reviewer: Renee Traivaranon  
Date Received: 11/4/2011

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)				
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total	
PAH HAPs											
Acenaphthene	83-32-9	PMHAP	POM	Organic PM	0.26%	0.47%	4.4E-04	6.0E-04	NA	1.0E-03	
Acenaphthylene	208-96-8	PMHAP	POM	Organic PM	0.028%	0.014%	4.8E-05	1.8E-05	NA	6.6E-05	
Anthracene	120-12-7	PMHAP	POM	Organic PM	0.07%	0.13%	1.2E-04	1.7E-04	NA	2.9E-04	
Benzo(a)anthracene	56-55-3	PMHAP	POM	Organic PM	0.019%	0.056%	3.2E-05	7.1E-05	NA	1.0E-04	
Benzo(b)fluoranthene	205-99-2	PMHAP	POM	Organic PM	0.0076%	0	1.3E-05	0	NA	1.3E-05	
Benzo(k)fluoranthene	207-08-6	PMHAP	POM	Organic PM	0.0022%	0	3.8E-06	0	NA	3.8E-06	
Benzo(g,h)perylene	191-24-2	PMHAP	POM	Organic PM	0.0015%	0	3.2E-06	0	NA	3.2E-06	
Benzo(a)pyrene	50-32-8	PMHAP	POM	Organic PM	0.0023%	0	3.9E-06	0	NA	3.9E-06	
Benzo(e)pyrene	192-87-2	PMHAP	POM	Organic PM	0.0078%	0.0096%	1.3E-05	1.2E-05	NA	2.5E-05	
Chrysene	218-01-9	PMHAP	POM	Organic PM	0.03%	0.21%	1.8E-04	2.7E-04	NA	4.4E-04	
Dibenz(a,h)anthracene	53-70-3	PMHAP	POM	Organic PM	0.00037%	0	6.5E-07	0	NA	6.5E-07	
Fluoranthene	206-44-0	PMHAP	POM	Organic PM	0.05%	0.15%	8.5E-05	1.9E-04	NA	2.8E-04	
Fluorene	86-73-7	PMHAP	POM	Organic PM	0.77%	1.01%	1.3E-03	1.3E-03	NA	2.6E-03	
Indeno(1,2,3-cd)pyrene	193-39-5	PMHAP	POM	Organic PM	0.00047%	0	8.0E-07	0	NA	8.0E-07	
2-Methylnaphthalene	91-57-6	PMHAP	POM	Organic PM	2.38%	5.27%	4.1E-03	6.7E-03	NA	0.011	
Naphthalene	91-20-3	PMHAP	POM	Organic PM	1.25%	1.82%	2.1E-03	2.3E-03	NA	4.4E-03	
Phenylene	198-55-0	PMHAP	POM	Organic PM	0.022%	0.03%	3.8E-05	3.8E-05	NA	7.6E-05	
Phenanthrene	85-01-8	PMHAP	POM	Organic PM	0.81%	1.80%	1.4E-03	2.3E-03	NA	3.7E-03	
Pyrene	129-00-0	PMHAP	POM	Organic PM	0.15%	0.44%	2.6E-04	5.6E-04	NA	8.1E-04	
<b>Total PAH HAPs</b>							<b>0.010</b>	<b>0.014</b>	<b>NA</b>	<b>0.025</b>	
Other semi-volatile HAPs											
Phenol		PMHAP	---	Organic PM	1.18%	0	2.0E-03	0	0	2.0E-03	

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

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

Abbreviations

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

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	100%	<b>1.95</b>	<b>6.09</b>	<b>0.52</b>	<b>8.57</b>
non-VOC/non-HAPs										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.4E-01	1.6E-02	3.6E-02	0.187
Azotane	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	9.6E-04	3.4E-03	2.5E-04	0.005
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.5E-02	6.7E-02	3.9E-03	0.086
<b>Total non-VOC/non-HAPs</b>					7.30%	1.40%	<b>0.152</b>	<b>0.085</b>	<b>0.040</b>	<b>0.28</b>
Volatile organic HAPs										
Benzene	71-43-2	VOCHAP	---	TOC	0.052%	0.032%	1.1E-03	1.9E-03	2.9E-04	3.3E-03
Bromomethane	74-83-9	VOCHAP	---	TOC	0.0095%	0.0049%	2.0E-04	3.0E-04	5.3E-05	5.5E-04
2-Butanone	78-93-3	VOCHAP	---	TOC	0.049%	0.039%	1.0E-03	2.4E-03	2.7E-04	3.7E-03
Carbon Disulfide	75-15-0	VOCHAP	---	TOC	0.013%	0.016%	2.7E-04	9.7E-04	7.2E-05	1.3E-03
Chloroethane	75-00-3	VOCHAP	---	TOC	0.00021%	0.004%	4.4E-06	2.4E-04	1.2E-06	2.5E-04
Chloromethane	74-87-3	VOCHAP	---	TOC	0.015%	0.023%	3.1E-04	1.4E-03	8.3E-05	1.8E-03
Cumene	92-92-8	VOCHAP	---	Reviv.	0.11%	0	2.3E-03	0	6.1E-04	2.9E-03
Ethylbenzene	100-41-4	VOCHAP	---	TOC	0.28%	0.038%	5.8E-03	2.3E-03	1.5E-03	0.010
Formaldehyde	50-00-0	VOCHAP	---	TOC	0.088%	0.69%	1.8E-03	4.2E-02	4.8E-04	0.044
n-Hexane	100-54-3	VOCHAP	---	TOC	0.15%	0.10%	3.1E-03	6.1E-03	9.3E-04	0.010
Isocutane	540-84-1	VOCHAP	---	TOC	0.0019%	0.00031%	3.7E-05	1.9E-05	9.9E-06	6.6E-05
Methylene Chloride	75-09-2	non-VOCHAP	---	TOC	0	0.00027%	0	1.6E-05	0	1.6E-05
MTBE	1634-04-4	VOCHAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOCHAP	---	TOC	0.0073%	0.0054%	1.5E-04	3.3E-04	4.0E-05	5.2E-04
Tetrachloroethene	127-18-4	non-VOCHAP	---	TOC	0.0077%	0	1.6E-04	0	4.2E-05	2.0E-04
Toluene	100-88-3	VOCHAP	---	TOC	0.21%	0.062%	4.4E-03	3.8E-03	1.2E-03	0.009
1,1,1-Trichloroethane	71-55-6	VOCHAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOCHAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOCHAP	---	TOC	0.0013%	0	2.7E-05	0	7.2E-06	3.4E-05
m,p-Xylene	1330-20-7	VOCHAP	---	TOC	0.41%	0.20%	8.5E-03	1.2E-02	2.3E-03	0.023
o-Xylene	95-47-6	VOCHAP	---	TOC	0.08%	0.08%	1.7E-03	3.5E-03	4.4E-04	5.6E-03
<b>Total volatile organic HAPs</b>					1.50%	1.30%	<b>0.031</b>	<b>0.079</b>	<b>0.008</b>	<b>0.119</b>

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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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.

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

where  $E_f$  = emission factor (lb/acre/day)  
 $s$  = silt content (wt %)  
 $p$  = 125 days of rain greater than or equal to 0.01 inches  
 $f$  = 15% of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.80	0.439	0.154
Limestone	1.6	1.85	1.30	0.439	0.154
RAP	0.5	0.58	1.40	0.148	0.052
Gravel	1.6	1.85	1.20	0.406	0.142
Slag	3.8	4.40	1.00	0.803	0.281
Shingles	3.8	4.40	0.40	0.321	0.112
<b>Totals</b>				<b>2.56</b>	<b>0.89</b>

**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

PM2.5 = Particulate Matter (<2.5 um)

PM10 = Particulate Matter (<10 um)

PTE = Potential to Emit

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

**Company Name:** Milestone Contractors, L.P.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

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

where:  $E_f$  = Emission factor (lb/ton)

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

Annual Asphalt Production Limitation = 1,000,000 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Material Handling Throughput = 950,000 tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	1.08	0.51	0.08
Front-end loader dumping of materials into feeder bins	1.08	0.51	0.08
Conveyor dropping material into dryer/mixer or batch tower	1.08	0.51	0.08
<b>Total (tons/yr)</b>	<b>3.23</b>	<b>1.53</b>	<b>0.23</b>

**Methodology**

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

**Material Screening and Conveying (AP-42 Section 19.2.2)**

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	2.57	1.14
Screening	0.025	0.0087	11.88	4.13
Conveying	0.003	0.0011	1.43	0.52
<b>Limited Potential to Emit (tons/yr) =</b>			<b>15.87</b>	<b>5.80</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 = 1,000,000 tons/yr  
 Percent Asphalt Cement/Binder (weight %) = 5.0%  
 Maximum Material Handling Throughput = 950,000 tons/yr  
 Maximum Asphalt Cement/Binder Throughput = 50,000 tons/yr  
 No. 2 Fuel Oil Limitation = 1,695,243 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	4.2E+04	1.7E+06	300	0.057	2,409.70
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.2E+05	300	0.057	2,409.70
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.4E+03	6.7E+04	300	0.057	78.91
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.4E+03	1.7E+04	300	0.057	78.91
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	1.8E+02	7.9E+03	300	0.057	10.17
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.8E+02	2.1E+03	300	0.057	10.17
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	2.3E+05	4.3E+06	300	0.057	12,851.73
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	2.3E+05	3.4E+06	300	0.057	12,851.73
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	4.2E+04	1.7E+06	300	0.057	2,367.42
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.1E+05	300	0.057	2,367.42
<b>Total</b>					<b>6.2E+05</b>	<b>1.3E+07</b>			<b>3.5E+04</b>

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

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

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

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

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	7.34	1.87	0.19	4.83	1.23	0.12	2.41	0.62	0.06
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	7.34	1.87	0.19	4.83	1.23	0.12	2.41	0.62	0.06
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.240	0.061	0.01	0.158	0.040	4.0E-03	0.079	0.020	2.0E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.240	0.061	0.01	0.158	0.040	4.0E-03	0.079	0.020	2.0E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.031	0.008	7.9E-04	0.020	0.005	5.2E-04	0.010	0.003	2.6E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.031	0.008	7.9E-04	0.020	0.005	5.2E-04	0.010	0.003	2.6E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	39.16	9.98	1.00	25.75	6.56	0.66	12.88	3.28	0.33
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	39.16	9.98	1.00	25.75	6.56	0.66	12.88	3.28	0.33
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	7.21	1.84	0.18	4.74	1.21	0.12	2.37	0.60	0.06
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	7.21	1.84	0.18	4.74	1.21	0.12	2.37	0.60	0.06
<b>Totals</b>		<b>107.99</b>	<b>27.52</b>	<b>2.75</b>	<b>71.00</b>	<b>18.10</b>	<b>1.81</b>	<b>35.50</b>	<b>9.05</b>	<b>0.90</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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	=	1,000,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	=	5.0%	
Maximum Material Handling Throughput	=	950,000	tons/yr
Maximum Asphalt Cement/Binder Throughput	=	50,000	tons/yr
No. 2 Fuel Oil Limitation	=	1,695,243	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	4.2E+04	1.7E+06	300	0.057	2,409.70
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.2E+05	300	0.057	2,409.70
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.4E+03	6.7E+04	300	0.057	78.91
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.4E+03	1.7E+04	300	0.057	78.91
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	1.8E+02	7.9E+03	300	0.057	10.17
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.8E+02	2.1E+03	300	0.057	10.17
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	2.3E+05	4.3E+06	300	0.057	12,851.73
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	2.3E+05	3.4E+06	300	0.057	12,851.73
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	4.2E+04	1.7E+06	300	0.057	2,367.42
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.1E+05	300	0.057	2,367.42
<b>Total</b>					<b>6.2E+05</b>	<b>1.3E+07</b>			<b>3.5E+04</b>

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

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

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

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E_f * [1 - (p/4N)]$

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.18	0.04	0.01	0.16	0.03	0.01	0.08	0.02	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.18	0.04	0.01	0.16	0.03	0.01	0.08	0.02	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.006	0.001	2.9E-04	0.005	0.001	2.9E-04	0.003	5.4E-04	1.3E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.006	0.001	2.9E-04	0.005	0.001	2.9E-04	0.003	5.4E-04	1.3E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	7.6E-04	1.5E-04	3.7E-05	6.9E-04	1.4E-04	3.4E-05	3.5E-04	6.9E-05	1.7E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	7.6E-04	1.5E-04	3.7E-05	6.9E-04	1.4E-04	3.4E-05	3.5E-04	6.9E-05	1.7E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.96	0.19	0.05	0.87	0.17	0.04	0.44	0.09	0.02
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.96	0.19	0.05	0.87	0.17	0.04	0.44	0.09	0.02
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.18	0.04	0.01	0.16	0.03	0.01	0.08	0.02	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.18	0.04	0.01	0.16	0.03	0.01	0.08	0.02	0.00
<b>Totals</b>		<b>2.63</b>	<b>0.53</b>	<b>0.13</b>	<b>2.41</b>	<b>0.48</b>	<b>0.12</b>	<b>1.20</b>	<b>0.24</b>	<b>0.06</b>

**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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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 = 60.55 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%	63.74	60.55	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	86.50	60.55	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	242.21	60.55	4.000
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	130.50	60.55	2.155
Other asphalt with solvent binder	25.9%	2.5%	2,422.07	60.55	40.0
<b>Worst Case Limited PTE of VOC =</b>				<b>60.55</b>	

**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
<b>Limited PTE of Total HAPs (tons/yr)</b>	<b>15.79</b>
<b>Limited PTE of Single HAP (tons/yr)</b>	<b>5.45 Xylenes</b>

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

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

**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/tpb.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.  
**Current Source Location:** 3255 W. 650 South, Williamsport, Indiana 47993  
**Permit Number:** F111-23687-03273  
**Revision Number:** F171-31109-03273  
**Reviewer:** Renee Traivaranon  
**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:

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

**Volatile Organic Compounds**

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0
Tank breathing and emptying	1.0	0
Vehicle refueling (displaced losses - controlled)	1.1	0
Spillage	0.7	0
<b>Total</b>		<b>0</b>

**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
<b>Limited PTE of Total HAPs (tons/yr) =</b>	<b>0</b>	
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>0</b>	<b>Xylenes</b>

**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/tpb.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](http://www.idem.IN.gov)

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

**TO:** Robert Beyke  
Milestone Contractors, L.P.  
5950 S. Belmont Ave  
Indianapolis, IN 46217

**DATE:** April 12, 2012

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

**SUBJECT:** Final Decision  
Significant Permit Revision  
171-31109-03273

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](mailto:jbrush@idem.IN.gov).

Final Applicant Cover letter.dot 11/30/07



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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April 12, 2012

TO: West Lebanon – Pike Township 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, L.P.**  
**Permit Number: 171-31109-03273**

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures  
Final Library.dot 11/30/07

# Mail Code 61-53

IDEM Staff	MIDENNEY 4/12/2012 Milestone Contractors, L.P. -Plant #31 171-31109-03273 (final)			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail:  <b>CERTIFICATE OF MAILING ONLY</b>	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee
											Remarks
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2		Jim Gross VP Asphalt Milestone Contractors, L.P. -Plant #31 5950 S Belmont Ave Indianapolis IN 46217 (RO CAATS)									
3		Fountain-Warren County Health Department 210 S. Perry St Attica IN 47918-1352 (Health Department)									
4		West Lebanon Pike Twp Public 200 High St, Box 277 West Lebanon IN 47991-0277 (Library)									
5		Williamsport Town Council 29 Monroe St. Williamsport IN 47993 (Local Official)									
6		Warren County Commissioner 31 North Monroe Street Williamsport IN 47993 (Local Official)									
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