NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding a Significant Revision to a Federally Enforceable State Operating Permit (FESOP) for Harding Materials, LLC in Marion County

Significant Permit Revision No.: 097-41822-00082

The Indiana Department of Environmental Management (IDEM) has received an application from Harding Materials, LLC, located at 5145 E 96th St., Indianapolis, IN 46240, for a significant revision of its FESOP issued on August 15, 2017. If approved by IDEM’s Office of Air Quality (OAQ), this proposed revision would allow Harding Materials, LLC to make certain changes at its existing source. Harding Materials, LLC has applied to replace the dryer drum, mixing drum, dryer burner and baghouse and add new material handling equipment.

The applicant intends to construct and operate new equipment that will emit air pollutants; therefore, the permit contains new or different permit conditions. In addition, some conditions from previously issued permits/approvals have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes (e.g., changes that add or modify synthetic minor emission limits). The potential to emit regulated air pollutants will continue to be limited to less than the Title V and PSD major threshold levels. IDEM has reviewed this application and has developed preliminary findings, consisting of a draft permit and several supporting documents, which would allow the applicant to make this change.

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

Indianapolis-Marion County Public Library
8625 Guilford Ave
Indianapolis, IN 46240

A copy of the preliminary findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. A copy of the preliminary findings is also available via IDEM’s Virtual File Cabinet (VFC.) Please go to: http://www.in.gov/idem/ and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria.

How can you participate in this process?

The date that this notice is posted on IDEM’s website (https://www.in.gov/idem/5474.htm) marks the beginning of a 30-day public comment period. If the 30th day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

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

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so that you can be added to IDEM’s mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number SPR 097-41622-00082 in all correspondence.

Comments should be sent to:

Mehul Sura  
IDEM, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
(800) 451-6027, ask for Mehul Sura or (317) 233-6868  
Or dial directly: (317) 233-6868  
Fax: (317)-232-6749 attn: Mehul Sura  
E-mail: msura@IDEM.IN.gov

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

For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: http://www.in.gov/idem/airquality/2356.htm; and the Citizens’ Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

What will happen after IDEM makes a decision?

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

If you have any questions, please contact Mehul Sura of my staff at the above address.

Madhurima D. Moulik, Ph.D., Section Chief  
Permits Branch  
Office of Air Quality

Madhurima D. Moulik, Ph.D., Section Chief  
Permits Branch  
Office of Air Quality
Re: 097-41822-00082  
Significant Revision to  
F097-37596-00082

Dear Mr. Matthews:

Harding Materials, LLC was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F097-37596-00082, on August 15, 2017, for a stationary hot batch-mix asphalt plant located at 5145 E 96th St., Indianapolis, Indiana 46240. On August 20, 2019, the Office of Air Quality (OAQ) received an application from the source requesting for the replacement of the dryer drum, mixing drum, dryer burner and baghouse and add new material handling equipment. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f)  Pursuant to the provisions of 326 IAC 2-8-11.1, a Significant Permit Revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

Pursuant to 326 IAC 2-8-11.1, the replacement of the dryer drum, mixing drum with a dryer/mixer combination drum, dryer burner, hot-mix asphalt drag slat and transfer conveyor, and three (3) silos are approved for construction at the source.

The following construction conditions are applicable to the proposed project:

**General Construction Conditions**

1. The data and information supplied with the application shall be considered part of this permit revision 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.

**Effective Date of the Permit**

3. Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

**Commenced Construction**

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

Attachment A: Fugitive Dust Control Plan
Attachment B: 40 CFR 60, NSPS for Hot Mix Asphalt Facilities, Subpart I
Attachment C: 40 CFR 60, NSPS for Nonmetallic Mineral Processing Plants, Subpart OOO

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

Previously issued approvals for this source are also available via IDEM's Virtual File Cabinet (VFC.) Please go to: http://www.in.gov/idem/ and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria.


A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. A copy of the permit is also available via IDEM's Virtual File Cabinet (VFC.) Please go to: http://www.in.gov/idem/ and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: http://www.in.gov/idem/airquality/2356.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

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

If you have any questions regarding this matter, please contact Mehul Sura, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 233-6868 or (800) 451-6027, and ask for Mehul Sura or (317) 233-6868.

Sincerely,

Madhurima D. Moulik, Ph.D., Section Chief
Permits Branch
Office of Air Quality

Attachments: Revised permit and Technical Support Document.

cc: File - Marion County
Marion County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch
New Source Review and
Federally Enforceable State Operating Permit Renewal
OFFICE OF AIR QUALITY

Harding Materials, LLC
5145 E 96th St.
Indianapolis, Indiana 46240

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

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-8-11.1, applicable to those conditions.

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

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<tbody>
<tr>
<td>Master Agency Interest ID.: 12,553</td>
</tr>
<tr>
<td>Issued by: Original signed by:</td>
</tr>
<tr>
<td>Nathan C. Bell, Section Chief</td>
</tr>
<tr>
<td>Permits Branch</td>
</tr>
<tr>
<td>Office of Air Quality</td>
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<tr>
<td>Issuance Date: August 15, 2017</td>
</tr>
<tr>
<td>Expiration Date: August 15, 2027</td>
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<table>
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<tr>
<th>Significant Permit Revision No.: 097-41822-00082</th>
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<tbody>
<tr>
<td>Issued by:</td>
</tr>
<tr>
<td>Madhurima D. Moulik, Ph.D., Section Chief</td>
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SECTION A  SOURCE SUMMARY

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

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

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

<table>
<thead>
<tr>
<th>Source Address:</th>
<th>5145 E 96th St., Indianapolis, Indiana 46240</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Source Phone Number:</td>
<td>(317) 681-8888</td>
</tr>
<tr>
<td>SIC Code:</td>
<td>2951</td>
</tr>
<tr>
<td>County Location:</td>
<td>Marion Outside Center, Perry, and Wayne Townships</td>
</tr>
<tr>
<td>Source Location Status:</td>
<td>Attainment for all criteria pollutants</td>
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<tr>
<td>Source Status:</td>
<td>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</td>
</tr>
</tbody>
</table>

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) batch-mix, hot-mix asphalt plant, identified as ID-1, constructed in 1969 and modified in 2016 and approved in 2019 for modification (to replace the dryer drum and mixing drum with a single dryer/mixer combination drum and to replace the dryer burner and baghouse), with a maximum throughput capacity of 350 tons of raw material per hour, equipped with one (1) 100.0 million British thermal units (MMBtu) per hour dryer burner, firing only natural gas, and equipped with one (1) baghouse for particulate control, exhausting through stack SV1. No shingles or slag are used in the production of asphalt pavement at this source. Cold-mix asphalt is not produced at this source.

This source is considered an affected modified hot-mix asphalt facility under the provisions of 40 CFR 60, Subpart I.

(b) Material handling and conveying operations, consisting of the following:

(1) One (1) aggregate storage area, constructed in 1969, consisting of the following:

(A) Sand storage piles, with a maximum anticipated pile size of 0.50 acres;

(B) Limestone storage piles, with a maximum anticipated pile size of 0.50 acres;

(C) Recycled asphalt pavement (RAP) storage pile(s), with a maximum anticipated pile size of 6.50 acres; and

(D) Gravel storage pile(s), with a maximum anticipated pile size of 0.50 acres.

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities, this is considered an affected modified hot-mix asphalt facility.
(2) One (1) aggregate handling and transfer system, constructed in 2016, consisting of:

(A) One (1) cold feed system, consisting of six (6) compartments, each with a capacity of thirty (30) tons, for a total aggregate holding capacity of 180 tons;

(B) One (1) feeder conveyors; and

(C) One (1) screen deck.

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities, this is considered an affected modified hot-mix asphalt facility.

(3) One (1) recycled asphalt pavement (RAP) processing system, constructed in 2016, with a maximum throughput capacity of one hundred fifty (150) tons of RAP per hour, uncontrolled and exhausting to the atmosphere, and consisting of:

(A) One (1) intermittent, portable, electric inline recycled asphalt pavement (RAP) crusher, having a maximum rated capacity of 150 tons of RAP per hour, uncontrolled and exhausting to the atmosphere;

(B) Two (2) RAP conveyors;

(C) Three (3) RAP feeder bins;

(D) Two (2) RAP screens;

Under 40 CFR 60, Subpart OOO this is considered an affected facility.

(4) One (1) hot-mix asphalt drag slat and transfer conveyor to silo, approved in 2019 for construction, with a maximum capacity of 350 tons per hour, without control and exhausting outside.

(5) Five (5) hot-mix asphalt storage silos, two (2) silos constructed in 1989 and 2016, respectively, and three (3) silos approved in 2019 for construction, each with a maximum capacity of 200 tons, without control and exhausting outside.

Under 40 CFR 60, Subpart I - New Source Performance Standards for Hot-mix Asphalt Facilities, this batch-mix, hot-mix asphalt plant is considered an affected facility.

(c) Unpaved roads and parking lots with public access;

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

This stationary source also includes the following insignificant activities:

(a) Two (2) asphaltic cement storage tanks, constructed in 2019, each with a maximum volume of 30,000 gallons and with a maximum true vapor pressure of less than 15.0 kPa.

(b) One (1) asphaltic cement storage tank, constructed in 2019, with a maximum volume of 30,000 gallons, and with a maximum true vapor pressure of less than 15.0 kPa.

(c) One (1) natural gas-fired hot oil heater, constructed in 2019, with a maximum heat input capacity of 1.42 MMBtu/hr per hour maximum rated capacity.
(d) Petroleum fuel (excluding gasoline) dispensing facilities having storage capacities less than or equal to 10,500 gallons and dispensing less than or equal to 230,000 gallons per month, and consisting of the following:

(1) One (1) 1,000 gallon off-road diesel tank; and
(2) One (1) 2,000 gallon on-road diesel tank.

(e) Closed loop heating and cooling systems;

(f) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;

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

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

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

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

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

(a) This permit, F097-37596-00082, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

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

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

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

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source’s compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than April 15 of each year to:

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

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

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

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

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

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

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

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

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

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

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

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

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

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

The Permittee shall implement the PMPs.

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

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

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

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

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

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

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

The Permittee shall implement the PMPs.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(A) A description of the emergency;

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

(C) Corrective actions taken.

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

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

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

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.

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

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

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

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

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

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

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

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

(a) All terms and conditions of permits established prior to F097-37596-00082 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

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

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

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

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

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

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

(1) That this permit contains a material mistake.

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

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

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

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

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

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

Request for renewal shall be submitted to:

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 5
   Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
   77 West Jackson Boulevard
   Chicago, Illinois 60604-3590

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

5. The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b)(1) and (c). The Permittee shall make such records available, upon reasonable request, for public review.
Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(1) and (c).

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

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

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

B.19 Source Modification Requirement [326 IAC 2-8-11.1]
A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]
Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee’s right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

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

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

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

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

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

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

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

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:
Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

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

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

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

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

C.1  Overall Source Limit  [326 IAC 2-8]

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

(a) Pursuant to 326 IAC 2-8:

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

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

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

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than 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.2  Opacity  [326 IAC 5-1]

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

(a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

C.3  Open Burning  [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.
C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]
The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions [326 IAC 6-4]
The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

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

C.7 Stack Height [326 IAC 1-7]
The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]
(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

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

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

(2) If there is a change in the following:
   (A) Asbestos removal or demolition start date;
   (B) Removal or demolition contractor; or
   (C) Waste disposal site.

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

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

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

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

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

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

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

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

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.
Compliance Monitoring Requirements  [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)]

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

(a) For new units:
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

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

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

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

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

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

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

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

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

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

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

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

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

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

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.
C.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

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

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

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

(1) initial inspection and evaluation;

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

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

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

(1) monitoring results;

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

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

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

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

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

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

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

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

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

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

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

(AA) All calibration and maintenance records.
(BB) All original strip chart recordings for continuous monitoring instrumentation.
(CC) Copies of all reports required by the FESOP.

Records of required monitoring information include the following, where applicable:

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

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

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

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

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

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

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

Stratospheric Ozone Protection

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

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.
SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) One (1) batch-mix, hot-mix asphalt plant, identified as ID-1, constructed in 1969 and modified in 2016 and approved in 2019 for modification (to replace the dryer drum and mixing drum with a single dryer/mixer combination drum and to replace the dryer burner and baghouse), with a maximum throughput capacity of 350 tons of raw material per hour, equipped with one (1) 100.0 million British thermal units (MMBtu) per hour dryer burner, firing only natural gas, and equipped with one (1) baghouse for particulate control, exhausting through stack SV1. No shingles or slag are used in the production of asphalt pavement at this source. Cold-mix asphalt is not produced at this source.

This source is considered an affected modified hot-mix asphalt facility under the provisions of 40 CFR 60, Subpart I.

(b) Material handling and conveying operations, consisting of the following:

(1) One (1) aggregate storage area, constructed in 1969, consisting of the following:

(A) Sand storage piles, with a maximum anticipated pile size of 0.50 acres;

(B) Limestone storage piles, with a maximum anticipated pile size of 0.50 acres;

(C) Recycled asphalt pavement (RAP) storage pile(s), with a maximum anticipated pile size of 6.50 acres; and

(D) Gravel storage pile(s), with a maximum anticipated pile size of 0.50 acres.

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities, this is considered an affected modified hot-mix asphalt facility.

(2) One (1) aggregate handling and transfer system, constructed in 2016, consisting of:

(A) One (1) cold feed system, consisting of six (6) compartments, each with a capacity of thirty (30) tons, for a total aggregate holding capacity of 180 tons;

(B) One (1) feeder conveyors; and

(C) One (1) screen deck.

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities, this is considered an affected modified hot-mix asphalt facility.

(3) One (1) recycled asphalt pavement (RAP) processing system, constructed in 2016, with a maximum throughput capacity of one hundred fifty (150) tons of RAP per hour, uncontrolled and exhausting to the atmosphere, and consisting of:

(A) One (1) intermittent, portable, electric inline recycled asphalt pavement (RAP) crusher, having a maximum rated capacity of 150 tons of RAP per hour, uncontrolled and exhausting to the atmosphere;

(B) Two (2) RAP conveyors;

(C) Three (3) RAP feeder bins;

(D) Two (2) RAP screens;
Under 40 CFR 60, Subpart OOO this is considered an affected facility.

(4) One (1) hot-mix asphalt drag slat and transfer conveyor to silo, approved in 2019 for construction, with a maximum capacity of 350 tons per hour, without control and exhausting outside.

(5) Five (5) hot-mix asphalt storage silos, two (2) silos constructed in 1989 and 2016, respectively, and three (3) silos approved in 2019 for construction, each with a maximum capacity of 200 tons, without control and exhausting outside.

Under 40 CFR 60, Subpart I - New Source Performance Standards for Hot-mix Asphalt Facilities, this batch-mix, hot-mix asphalt plant is considered an affected facility.

(c) Unpaved roads and parking lots with public access;

Insignificant Activity Description:

(c) One (1) natural gas-fired hot oil heater, constructed in 2019, with a maximum heat input capacity of 1.42 MMBtu/hr per hour maximum rated capacity.

(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 Source Limits: PM [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the Permittee shall comply with the following:

(a) The amount of asphalt processed in the dryer/mixer shall not exceed 450,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM emissions (after control) from the dryer/mixer shall not exceed 0.890 pounds per ton of asphalt processed.

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

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

Pursuant to 326 IAC 2-8-4 and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

(a) The amount of asphalt processed in the dryer/mixer shall not exceed 450,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) PM10 emissions (after control) from the dryer/mixer shall not exceed 0.378 pounds per ton of asphalt processed.

(c) PM2.5 emissions (after control) from the dryer/mixer shall not exceed 0.420 pounds per ton of asphalt processed.
(d) CO emissions from the dryer/mixer shall not exceed 0.400 pounds per ton of asphalt processed.

(e) Natural gas usage shall not exceed 1,033 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month;

The source is only permitted to burn natural gas in the dryer/mixer burner.

(f) NOx emissions from the dryer/mixer shall not exceed 190 pounds per million cubic feet (MMCF) of natural gas combusted.

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

D.1.3 Particulate Matter (PM) [326 IAC 6.5-1-2]

(a) Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the following units shall each not exceed 0.03 grains per dry standard cubic foot (gr/dscf) for particulate matter:

<table>
<thead>
<tr>
<th>Emission Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drum dryer/mixer</td>
</tr>
<tr>
<td>Portable RAP crusher</td>
</tr>
<tr>
<td>Enclosed systems for conveying, handling, weighing, crushing, screening, and/or storing materials such as aggregate, reclaimed asphalt pavement, mineral filler, and asphalt concrete, and the loading, transfer, and storage systems associated with emission control systems, each</td>
</tr>
<tr>
<td>Paved and unpaved roads</td>
</tr>
</tbody>
</table>

(b) Pursuant to 326 IAC 6.5-1-2(c) (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the Aggregate storage area shall not exceed 0.10 grains per dry standard cubic foot (gr/dscf) for particulate matter.

D.1.4 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 [326 IAC 2-8-4(1)]

D.1.5 Particulate Control (PM/PM10/PM2.5)

(a) In order to comply with Conditions D.1.1(b), D.1.2(b), D.1.2(c) and D.1.3, 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.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with D.1.1(b), D.1.2(b), D.1.2(c) and D.1.3, the Permittee shall perform PM, PM10, and PM2.5 testing of the new baghouse, controlling particulate emissions from
dryer/mixer, not later than one hundred eighty (180) days after the initial 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. PM10 and PM2.5 includes filterable and condensable particulate matter.

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

D.1.7 Visible Emissions Notations

(a) Visible emission notations of the dryer/mixer stack (SV1) 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.1.8 Broken or Failed Bag Detection

In the event that bag failure has been observed:

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

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

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

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

D.1.9 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.1(a) and D.1.2(a), the Permittee shall keep records of the amount of asphalt processed through the dryer/mixer each month and each compliance period.
(b) To document the compliance status with Conditions D.1.2(e), the Permittee shall keep records of the amount of natural gas combusted in the dryer/mixer burner each month and each compliance period.

(c) To document the compliance status with Condition D.1.7, the Permittee shall maintain daily records of visible emission notations of the dryer/mixer stack (SV1) exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

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

D.1.10 Reporting Requirements

Quarterly summaries of the information to document compliance status with Conditions D.1.1(a) and D.1.2(a), shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The reports submitted by the Permittee do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Insignificant Activity Description:

(c) One (1) natural gas-fired hot oil heater, constructed in 2019, with a maximum heat input capacity of 1.42 MMBtu/hr per hour maximum rated capacity.

(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 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from hot oil heater shall be limited to 0.6 pounds per MMBtu heat input.

D.2.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for this facility. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.
Emissions Unit Description:

(a) One (1) batch-mix, hot-mix asphalt plant, identified as ID-1, constructed in 1969 and modified in 2016 and approved in 2019 for modification (to replace the dryer drum and mixing drum with a single dryer/mixer combination drum and to replace the dryer burner and baghouse), with a maximum throughput capacity of 350 tons of raw material per hour, equipped with one (1) 100.0 million British thermal units (MMBtu) per hour dryer burner, firing only natural gas, and equipped with one (1) baghouse for particulate control, exhausting through stack SV1. No shingles or slag are used in the production of asphalt pavement at this source. Cold-mix asphalt is not produced at this source.

This source is considered an affected modified hot-mix asphalt facility under the provisions of 40 CFR 60, Subpart I.

(b) Material handling and conveying operations, consisting of the following:

(1) One (1) aggregate storage area, constructed in 1969, consisting of the following:

   (A) Sand storage piles, with a maximum anticipated pile size of 0.50 acres;

   (B) Limestone storage piles, with a maximum anticipated pile size of 0.50 acres;

   (C) Recycled asphalt pavement (RAP) storage pile(s), with a maximum anticipated pile size of 6.50 acres; and

   (D) Gravel storage pile(s), with a maximum anticipated pile size of 0.50 acres.

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities, this is considered an affected modified hot-mix asphalt facility.

(2) One (1) aggregate handling and transfer system, constructed in 2016, consisting of:

   (A) One (1) cold feed system, consisting of six (6) compartments, each with a capacity of thirty (30) tons, for a total aggregate holding capacity of 180 tons;

   (B) One (1) feeder conveyors; and

   (C) One (1) screen deck.

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities, this is considered an affected modified hot-mix asphalt facility.

(4) One (1) hot-mix asphalt drag slat and transfer conveyor to silo, approved in 2019 for construction, with a maximum capacity of 350 tons per hour, without control and exhausting outside.

(5) Five (5) hot-mix asphalt storage silos, two (2) silos constructed in 1989 and 2016, respectively, and three (3) silos approved in 2019 for construction, each with a maximum capacity of 200 tons, without control and exhausting outside.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)
New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

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

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

(b) Pursuant to 40 CFR 60.4, 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 [326 IAC 12] [40 CFR Part 60, Subpart I]

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

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

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

E.1.3 Testing Requirements [326 IAC 2-1.1-11] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In order to comply with Condition E.1.2, the Permittee shall perform the testing required under 40 CFR 60, Subpart I, 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 of such facility, utilizing methods as approved by the Commissioner. 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.2 NSPS

#### Emissions Unit Description:

(b) Material handling and conveying operations, consisting of the following:

(3) One (1) recycled asphalt pavement (RAP) processing system, constructed in 2016, with a maximum throughput capacity of one hundred fifty (150) tons of RAP per hour, uncontrolled and exhausting to the atmosphere, and consisting of:

(A) One (1) intermittent, portable, electric inline recycled asphalt pavement (RAP) crusher, having a maximum rated capacity of 150 tons of RAP per hour, uncontrolled and exhausting to the atmosphere;

(B) Two (2) RAP conveyors;

(C) Three (3) RAP feeder bins;

(D) Two (2) RAP screens;

Under 40 CFR 60, Subpart OOO this is considered an affected facility.

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

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

**E.2.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]**

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

- (b) Pursuant to 40 CFR 60.4, 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 New Source Performance Standards (NSPS) for Nonmetallic Mineral Processing Plants [326 IAC 12] [40 CFR Part 60, Subpart OOO]**

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart OOO (included as Attachment C to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

- (1) 40 CFR 60.670(a), (d), (e), and (f)
- (2) 40 CFR 60.671
- (3) 40 CFR 60.672(b), (d), and (e)
- (4) 40 CFR 60.673
- (5) 40 CFR 60.674(b)
- (6) 40 CFR 60.675(a), (c)(1)(i), (ii), (iii), (c)(3), (d), (e), (g), and (i)
- (7) 40 CFR 60.676(a), (b)(1), (f), (h), (i), (j), and (k)
- (8) Table 1 and Table 3
E.2.3 Testing Requirements [326 IAC 2-1.1-11]

In order to comply with Condition E.2.2, the Permittee shall perform the testing required under NSPS 40 CFR 60, Subpart OOO, 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 of such facility, utilizing methods as approved by the Commissioner. 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.
**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
**OFFICE OF AIR QUALITY**  
**COMPLIANCE AND ENFORCEMENT BRANCH**

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

Source Name: Harding Materials, LLC  
Source Address: 5145 E 96th St., Indianapolis, Indiana 46240  
FESOP Permit No.: F097-37596-00082

<table>
<thead>
<tr>
<th>This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Annual Compliance Certification Letter</td>
</tr>
<tr>
<td>□ Test Result (specify)</td>
</tr>
<tr>
<td>□ Report (specify)</td>
</tr>
<tr>
<td>□ Notification (specify)</td>
</tr>
<tr>
<td>□ Affidavit (specify)</td>
</tr>
<tr>
<td>□ Other (specify)</td>
</tr>
</tbody>
</table>

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

Source Name: Harding Materials, LLC
Source Address: 5145 E 96th St., Indianapolis, Indiana 46240
FESOP Permit No.: F097-37596-00082

This form consists of 2 pages

<table>
<thead>
<tr>
<th>This is an emergency as defined in 326 IAC 2.7-1(12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and</td>
</tr>
<tr>
<td>□ The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2.8-12</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Facility/Equipment/Operation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Equipment:</td>
</tr>
<tr>
<td>Permit Condition or Operation Limitation in Permit:</td>
</tr>
<tr>
<td>Description of the Emergency:</td>
</tr>
<tr>
<td>Describe the cause of the Emergency:</td>
</tr>
</tbody>
</table>
If any of the following are not applicable, mark N/A

<table>
<thead>
<tr>
<th>Date/Time Emergency started:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date/Time Emergency was corrected:</td>
</tr>
<tr>
<td>Was the facility being properly operated at the time of the emergency?</td>
</tr>
<tr>
<td>Describe:</td>
</tr>
<tr>
<td>Type of Pollutants Emitted: TSP, PM-10, SO₂, VOC, NOₓ, CO, Pb, other:</td>
</tr>
<tr>
<td>Estimated amount of pollutant(s) emitted during emergency:</td>
</tr>
<tr>
<td>Describe the steps taken to mitigate the problem:</td>
</tr>
<tr>
<td>Describe the corrective actions/response steps taken:</td>
</tr>
<tr>
<td>Describe the measures taken to minimize emissions:</td>
</tr>
<tr>
<td>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:</td>
</tr>
</tbody>
</table>

Form Completed by: ____________________________
Title / Position: ____________________________
Date: ____________________________
Phone: ____________________________
**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
**OFFICE OF AIR QUALITY**
**COMPLIANCE AND ENFORCEMENT BRANCH**

**FESOP Quarterly Report**

<table>
<thead>
<tr>
<th>Source Name:</th>
<th>Harding Materials, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Address:</td>
<td>5145 E 96th St., Indianapolis, Indiana 46240</td>
</tr>
<tr>
<td>FESOP Permit No.:</td>
<td>F097-37596-00082</td>
</tr>
<tr>
<td>Facility:</td>
<td>Dryer/Mixer</td>
</tr>
<tr>
<td>Parameter:</td>
<td>Hot-Mix Asphalt Production</td>
</tr>
<tr>
<td>Limit:</td>
<td>The amount of hot-mix asphalt produced in the dryer/burner shall not exceed 450,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.</td>
</tr>
</tbody>
</table>

**QUARTER:** ______________________  **YEAR:** ______________________

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
<td></td>
</tr>
</tbody>
</table>

☐ 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: Harding Materials, LLC
Source Address: 5145 E 96th St., Indianapolis, Indiana 46240
FESOP Permit No.: F097-37596-00082
Facility: Dryer Burner
Parameter: Natural Gas Usage
Limit: Natural gas usage shall not exceed 1,033 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.

<table>
<thead>
<tr>
<th>QUARTER:</th>
<th>YEAR:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Submitted by: _____________________________________________________
Title / Position: __________________________________________________
Signature: ________________________________________________________
Date: ____________________________________________________________
Phone: ___________________________________________________________


## Quarterly Deviation and Compliance Monitoring Report

Source Name: Harding Materials, LLC  
Source Address: 5145 E 96th St., Indianapolis, Indiana 46240  
FESOP Permit No.: F097-37596-00082  

**Months:** ___________ to ____________  
**Year:** ______________

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B – Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C - General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

**NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.**

**THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD**

<table>
<thead>
<tr>
<th>Permit Requirement (specify permit condition #)</th>
<th>Date of Deviation:</th>
<th>Duration of Deviation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Deviations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Steps Taken:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Steps Taken:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permit Requirement (specify permit condition #)</td>
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<td>------------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td><strong>Date of Deviation:</strong></td>
<td><strong>Duration of Deviation:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Number of Deviations:</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Probable Cause of Deviation:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Response Steps Taken:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
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<td></td>
</tr>
<tr>
<td><strong>Response Steps Taken:</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Probable Cause of Deviation:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Response Steps Taken:</strong></td>
<td></td>
</tr>
</tbody>
</table>

Form Completed by: ________________________________
Title / Position: ________________________________
Date: ________________________________
Phone: ________________________________
Indiana Department of Environmental Management  
Office of Air Quality  

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

**Source Description and Location**

- **Source Name:** Harding Materials, LLC  
- **Source Location:** 5145 E 96th St., Indianapolis, IN 46240  
- **County:** Marion (Washington Township)  
- **SIC Code:** 2951 (Asphalt Paving Mixtures and Blocks)  
- **Operation Permit No.:** F097-37596-00082  
- **Operation Permit Issuance Date:** August 15, 2017  
- **Significant Permit Revision No.:** 097-41822-00082  
- **Permit Reviewer:** Mehul Sura

**Existing Approvals**

The source was issued FESOP Renewal No. F097-37596-00082 on August 15, 2017. There have been no subsequent approvals issued.

**County Attainment Status**

The source is located in Marion (Washington Township) County.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>Non-attainment effective October 4, 2013, for the Center Township, Perry Township, and Wayne Township. Better than national standards for the remainder of the county.</td>
</tr>
<tr>
<td>CO</td>
<td>Attainment effective February 18, 2000, for the part of the city of Indianapolis bounded by 11th Street on the north; Capitol Avenue on the west; Georgia Street on the south; and Delaware Street on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of Indianapolis and Marion County.</td>
</tr>
<tr>
<td>O₃</td>
<td>Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard.¹</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>Attainment effective July 11, 2013, for the annual PM₂.₅ standard.</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM₁₀ standard.</td>
</tr>
<tr>
<td>NO₂</td>
<td>Unclassifiable effective November 15, 1990.</td>
</tr>
<tr>
<td>Pb</td>
<td>Unclassifiable or attainment effective December 31, 2011.</td>
</tr>
</tbody>
</table>

¹Attainment effective October 18, 2000, for the 1-hour ozone standard for the Indianapolis area, including Marion County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour designation was revoked effective June 15, 2005.

(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. Marion (Washington Township) County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) **PM₂.₅**  
Marion (Washington Township) County has been classified as attainment for PM2.5. Therefore, direct PM2.5, SO₂, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
(c) Other Criteria Pollutants
Marion (Washington Township) County has been classified as attainment or unclassifiable in Indiana for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

This type of operation is not one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2-1(ff)(1), 326 IAC 2-3-2(g), or 326 IAC 2-7-1(22)(B). However, there is an applicable New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants that was in effect on August 7, 1980 (NSPS or NESHAP Subpart ?? for (title of rule)); therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

The fugitive emissions of hazardous air pollutants (HAP) are counted toward the determination of Part 70 Permit applicability and source status under Section 112 of the Clean Air Act (CAA).

Greenhouse Gas (GHG) Emissions

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

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

Source Status - 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. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

<table>
<thead>
<tr>
<th>Source-Wide Emissions Prior to Revision (ton/year)</th>
<th>PM (^1)</th>
<th>PM (_{10}) (^1)</th>
<th>PM (_{2.5}) (^1,2)</th>
<th>SO(_2)</th>
<th>NO(_X)</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Single HAP (^3) (HCl)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PTE of Entire Source Including Fugitives*</td>
<td>249.00</td>
<td>99.00</td>
<td>99.00</td>
<td>19.80</td>
<td>99.00</td>
<td>12.72</td>
<td>91.13</td>
<td>2.01</td>
<td>0.93</td>
</tr>
<tr>
<td>Title V Major Source Thresholds</td>
<td>NA</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>25</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>PSD Major Source Thresholds</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)Under the Part 70 Permit program (40 CFR 70), PM\(_{10}\) and PM\(_{2.5}\), not particulate matter (PM), are each considered as a “regulated air pollutant.”

\(^2\)PM\(_{2.5}\) listed is direct PM\(_{2.5}\).

\(^3\)Single highest source-wide HAP

*Fugitive HAP emissions are always included in the source-wide emissions.
(a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant is emitted at a rate of two hundred fifty (250) tons per year or more and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This existing source is not a major source of HAP, as defined in 40 CFR 63.2, because HAP emissions are 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.

(c) These emissions are based on the TSD of FESOP Renewal No. F097-37596-00082, issued on August 15, 2017.

### Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Harding Materials, LLC on August 20, 2019, relating to:

(i) Replace the existing dryer drum, mixing drum, dryer burner and baghouse of the hot-mix asphalt plant (ID-1). The new dryer drum and mixing drum will have the same design capacity as the existing dryer drum and mixing drum design capacity. The new dryer burner will have 100 MMBtu/hr heat input capacity and will replace a permitted 120 MMBtu/hr dryer burner. The fuel type is not changed.

(ii) Remove the following emission units:

(a) One (1) aggregate bucket elevator.
(b) One (1) hot-mix asphalt drag slat and transfer conveyor to silo, and constructed in 1989.
(c) Three (3) hot-mix asphalt storage silos, constructed in 1989 and 2016, each with a maximum capacity of 200 tons.
(d) Two (2) asphalitic cement storage tanks, constructed in 1969, with a maximum volume of 20,000 gallons and 22,000 gallons, and with a maximum true vapor pressure of less than 15.0 kPa.
(e) One (1) asphalitic cement storage tank, constructed in 2016, with a maximum volume of 30,000 gallons, and with a maximum true vapor pressure of less than 15.0 kPa.
(f) One (1) natural gas-fired hot oil heater, constructed in 1969, identified as ID-2, with a maximum heat input capacity of 1.30 MMBtu/hr per hour maximum rated capacity.

(iii) Add the following new emission units:

(a) One (1) hot-mix asphalt drag slat and transfer conveyor to silo, approved in 2019 for construction, with a maximum capacity of 350 tons per hour, without control and exhausting outside.
(b) Three (3) hot-mix asphalt storage silos, approved in 2019 for construction, each with a maximum capacity of 200 tons, without control and exhausting outside.
(c) Two (2) asphalitic cement storage tanks, constructed in 2019, each with a maximum volume of 30,000 gallons and with a maximum true vapor pressure of less than 15.0 kPa.
(d) One (1) asphalitic cement storage tank, constructed in 2019, with a maximum volume of 30,000 gallons, and with a maximum true vapor pressure of less than 15.0 kPa.
(e) One (1) natural gas-fired hot oil heater, constructed in 2019, with a maximum heat input capacity of 1.42 MMBtu/hr per hour maximum rated capacity.

(iv) Change the company name to Harding Materials, LLC

Harding Materials, Inc. brought an outside business partner to the company. Both parties agreed to make the company a Limited Liability Company instead of a corporation. The company name has been changed to Harding Materials, LLC.

(v) Replace the baghouse controlling the hot-mix asphalt plant.

**Enforcement Issues**

There are no pending enforcement actions related to this revision.

**Emission Calculations**

See Appendix A of this Technical Support Document for detailed emission calculations.

### Permit Level Determination – FESOP Significant Permit Revision

Pursuant to 326 IAC 2-1.1-1(12), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-8-11.1 (Permit Revisions). This table reflects the PTE before controls of the proposed revision. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
<th>SO$_2$</th>
<th>NO$_X$</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Single HAP$^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dryer Fuel Combustion (worst case)</td>
<td>0.8</td>
<td>3.3</td>
<td>3.3</td>
<td>0.3</td>
<td>83.2</td>
<td>2.4</td>
<td>36.8</td>
<td>0.8</td>
<td>0.8 (hydrogen chloride)</td>
</tr>
<tr>
<td>Dryer/Mixer and Batch Tower (Process)</td>
<td>49056.0</td>
<td>6898.5</td>
<td>413.9</td>
<td>7.1</td>
<td>38.3</td>
<td>12.6</td>
<td>613.2</td>
<td>11.7</td>
<td>4.1 (xylene)</td>
</tr>
<tr>
<td>Asphalt Load-Out, Silo Filling, On-Site Yard</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>0.0</td>
<td>0.0</td>
<td>26.3</td>
<td>4.4</td>
<td>0.44</td>
<td>0.14 (formaldehyde)</td>
</tr>
<tr>
<td>Material Processing and Handling</td>
<td>9.9</td>
<td>4.7</td>
<td>0.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.00</td>
</tr>
<tr>
<td>Hot Oil Heater</td>
<td>0.012</td>
<td>0.047</td>
<td>0.047</td>
<td>0.004</td>
<td>0.622</td>
<td>0.034</td>
<td>0.522</td>
<td>0.012</td>
<td>0.011 hexane</td>
</tr>
<tr>
<td><strong>Total PTE Before Controls of the New Emission Units:</strong></td>
<td>49068.4</td>
<td>6908.3</td>
<td>419.7</td>
<td>7.3</td>
<td>122.2</td>
<td>41.3</td>
<td>654.9</td>
<td>13.0</td>
<td>4.1 (xylene)</td>
</tr>
</tbody>
</table>

$^1$PM$_{2.5}$ listed is direct PM$_{2.5}$.

$^2$Single highest HAP.
Appendix A of this TSD reflects the detailed potential emissions of the proposed revision.

Pursuant to 326 IAC 2-8-11.1(f)(1)(E), this FESOP is being revised through a FESOP Significant Permit Revision because the proposed revision is not an Administrative Amendment or Minor Permit revision and the proposed revision involves the construction of new emission units, where the potential to emit of PM, PM10, direct PM2.5 and NOx, each, is greater than or equal to twenty-five (25) tons per year and potential to emit of CO is greater than or equal to one hundred (100) tons per year.

<table>
<thead>
<tr>
<th>Source-Wide Emissions After Issuance (ton/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM1</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

PTE of the Entire Source After Issuance of the FESOP Revision

The table below summarizes the after issuance source-wide potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of the revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

1Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant."
2PM2.5 listed is direct PM2.5.
3Single highest source-wide HAP
4Fugitive HAP emissions are always included in the source-wide emissions.

Appendix A of this TSD reflects the detailed potential to emit of the entire source after issuance.

The source opted to take PM, PM10, PM2.5, NOx, and CO limit(s) in order to render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to this source. See Technical Support Document (TSD) State Rule Applicability - Entire Source section, 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP) for more information regarding the limit(s).

(a) This existing Title V minor stationary source will continue to be minor under 326 IAC 2-7 because the potential to emit criteria pollutants and HAPs from the entire source will continue to be less than or limited to less than the Title V major source threshold levels. Therefore, the source is subject to the provisions of 326 IAC 2-8 (FESOP) and is an area source under Section 112 of the Clean Air Act (CAA).

(b) This existing minor PSD stationary source will continue to be minor under 326 IAC 2-2 because the potential to emit of all PSD regulated pollutants from the entire source will continue to be less than or limited to less than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
Federal Rule Applicability Determination

Due to the proposed revision, federal rule applicability has been reviewed as follows:

New Source Performance Standards (NSPS):

(a) Subpart I—Standards of Performance for Hot Mix Asphalt Facilities

The proposed dryer drum, mixing drum, dryer burner, one (1) hot-mix hot-mix asphalt drag slat and transfer conveyor to silo, and three (3) hot-mix asphalt storage silos are subject to the requirements of NSPS, Subpart I, which is incorporated by reference as 326 IAC 12, because the construction date of these hot mix asphalt facilities is after the NSPS, Subpart I applicability date of June 11, 1973.

These emission units are subject to the following portions of Subpart I.

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

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to these emission units except as otherwise specified in 40 CFR 60, Subpart I.

(b) Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

The proposed asphaltic cement storage tanks are not subject to the requirements of this NSPS, NSPS, Subpart Kb because each of these tanks has a capacity greater than 75 cubic meters and less than 151 cubic meters and stores liquid with a maximum true vapor pressure less than 15.0 kPa.

(b) Subpart UU—Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture

The requirements of this NSPS, Subpart UU applies to asphalt processing plant and asphalt roofing products. This source does not blows asphalt for use in the manufacture of asphalt products, therefore, this source is not an asphalt processing plant and this source does not produces asphalt roofing products (shingles, roll roofing, siding, or saturated felt), therefore, this source is not an asphalt roofing plant. As a result, this source is not subject to the requirements of this NSPS, Subpart UU.

(c) Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants

The proposed dryer drum, mixing drum, dryer burner, one (1) hot-mix hot-mix asphalt drag slat and transfer conveyor to silo, and three (3) hot-mix asphalt storage silos are subject to the requirements of NSPS, Subpart I. Therefore, these proposed emission units are subject to the requirements of NSPS, Subpart OOO, pursuant to 40 CFR 60.670(b).

(d) Subpart UUU—Standards of Performance for Calciners and Dryers in Mineral Industries

The source is not a mineral processing plant because it does not processes or produces any of the following minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite. Therefore, this source is not subject to the requirements of this NSPS, Subpart UUU.
There are no other New Source Performance Standards (40 CFR Part 60) and 326 IAC 12 included for this proposed revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP):

(a) Subpart LLLLL—National Emission Standards for Hazardous Air Pollutants: Asphalt processing and Asphalt Roofing Manufacturing

This source is not subject to the requirements of NESHAP, Subpart LLLLL because this source is not a major source of HAPs.

(b) Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

The natural gas fired hot oil heater is considered gas-fired unit under this NESHAP, JJJJJJ. Therefore, this hot oil heater is not subject to the requirements of NESHAP, 40 CFR 63, Subpart JJJJJJ.

(c) Subpart AAAAAA—National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing

The requirements of this NESHAP, Subpart AAAAAA applies to asphalt processing plant and asphalt roofing products. This source does not blow asphalt, therefore, this source is not an asphalt processing plant and this source does not produces asphalt roofing products, therefore, this source is not an asphalt roofing plant. As a result, this source is not subject to the requirements of NESHAP, Subpart AAAAAA.

(d) There are no NESHAPs (40 CFR Part 63, 326 IAC 14, and 326 IAC 20) included in the permit for this proposed revision.

Compliance Assurance Monitoring (CAM):

Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited 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.

Compliance with these limitations, combined with the PM emissions from other emission units at this source, shall limit the source-wide total potential to emit PM to less than 250 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.
PSD Minor Source and FESOP Limits
Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable, the Permittee shall comply with the following:

(a) PM10 emissions (after control) from the dryer/mixer shall not exceed 0.378 pounds per ton of asphalt processed.
(b) PM2.5 emissions (after control) from the dryer/mixer shall not exceed 0.420 pounds per ton of asphalt processed.
(c) CO emissions from the dryer/mixer shall not exceed 0.400 pounds per ton of asphalt processed.
(d) Natural gas usage shall not exceed 1,033 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month;
(e) NOx emissions from the dryer/mixer shall not exceed 190 pounds per million cubic feet (MMCF) of natural gas combusted.

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

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
Each proposed emission unit will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply to the proposed emission units.

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

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

326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
326 IAC 6.5 applies to sources or facilities located in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties. Sources specifically listed in the rule shall comply with the limitations in 326 IAC 6.5-2 through 326 IAC 6.5-10, as applicable. Sources not specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10 shall comply with 326 IAC 6.5-1-2, if they have the potential to emit ten (10) tons or more of particulate matter (PM) and are not taking a limit of less than ten (10) tons of particulate matter (PM).

This source, located in Marion County, and has the potential to emit ten (10) tons or more of particulate matter (PM) and is not taking a limit of less than ten (10) tons of particulate matter (PM). Therefore, 326 IAC 6.5 applies to the proposed dryer drum and mixing drum and the requirements are included in the permit. The dryer burner and hot oil heater burn natural gas only. Therefore, pursuant to 326 IAC 6.5-1-1(b), the 326 IAC 6.5-1-2(b) limits are not applied to the dryer burner and hot oil heater.

Pursuant to 326 IAC 6.5-1-2 (a), particulate matter (PM) emissions from the proposed dryer drum, mixing drumx, one (1) hot-mix hot-mix asphalt drag slat and transfer conveyor to silo, and three (3) hot-mix asphalt storage silos shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

The baghouse for particulate controls for the dryer drum and mixing drum shall be in operation and control emissions at all times when these emission units are in operation, in order to comply with this limit for the dryer drum, mixing drum and dryer burner.
326 IAC 6-2-1 (Particulate Emission Limitations for Sources of Indirect Heating)
The dryer burner is not subject to the requirements of this rule because this emission unit is not indirect heating unit.

Pursuant to 326 IAC 6-2-1(d), indirect heating facilities which received permit to construct after September 21, 1983 are subject to the requirements of 326 IAC 6-2-4. Therefore, the proposed natural gas fired hot oil heater rated at 1.42 MMBtu per hour, is subject to the requirements of 326 IAC 6-2-4.

The particulate matter emissions (Pt) shall be limited by the following equation:

\[
Pt = \frac{1.09}{Q^{0.26}}
\]

Where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu).

Q = Total source maximum operating capacity rating in MMBtu/hr heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility’s permit application, except when some lower capacity is contained in the facility’s operation permit; in which case, the capacity specified in the operation.

Pursuant to 326 IAC 6-2-4(a), for Q less than 10 MMBtu/hr, Pt shall not exceed 0.6 lb/MMBtu.

<table>
<thead>
<tr>
<th>Indirect Heating Units Which Began Operation After September 21, 1983</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility</td>
</tr>
<tr>
<td>hot oil heater</td>
</tr>
</tbody>
</table>

Where: Q = Includes the capacity (MMBtu/hr) of the new unit(s) and the capacities for those unit(s) which were in operation at the source at the time the new unit(s) was constructed.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
The potential to emit of sulfur dioxide (SO2) are less than less than 25 tons per year or 10 pounds per hour from dryer drum, mixing drum and dryer burner. Therefore, these proposed emission units are not subject to the requirements of this rule.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The natural gas-fired dryer and hot oil heater are not subject to the requirements of 326 IAC 8-1-6, since the potential unlimited VOC emissions from each of these emission unit is less than twenty-five (25) tons per year. There are no other 326 IAC 8 rules that are applicable to these type of processes.

326 IAC 9-1 (Carbon Monoxide Emission Limits)
The requirements of 326 IAC 9-1 do not apply to the dryer burner, because this source does not operate a catalyst regeneration petroleum cracking system or a petroleum fluid coker, grey iron cupola, blast furnace, basic oxygen steel furnace, or other ferrous metal smelting equipment.

326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories)
The requirements of 326 IAC 10-3 do not apply to the dryer burner, since this unit is not a blast furnace gas-fired boiler, a Portland cement kiln, or a facility specifically listed under 326 IAC 10-3-1(a)(2).
Compliance Determination and Monitoring Requirements

(a) The Compliance Determination Requirements applicable to this revision are as follows:

Testing Requirements:

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Control Device</th>
<th>Timeframe for Testing or Date of Initial Valid Demonstration</th>
<th>Pollutant/Parameter</th>
<th>Frequency of Testing</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed Dryer/mixer</td>
<td>New Baghouse</td>
<td>no later than 180 days after initial startup of the Proposed Dryer/mixer</td>
<td>PM/PM10/PM2.5</td>
<td>Once every five (5) years</td>
<td>326 IAC 2-8 (FESOP) and 326 IAC 2-2 (PSD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no later than 60 days after achieving the maximum production rate, but not later than 180 days after initial startup</td>
<td>PM and Opacity</td>
<td>Once every five (5) years</td>
<td>40 CFR 60, Subpart I</td>
</tr>
</tbody>
</table>

(b) The Compliance Monitoring Requirements applicable to this proposed revision are as follows:

<table>
<thead>
<tr>
<th>Control Device</th>
<th>Type of Parametric Monitoring</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dryer/mixer baghouse</td>
<td>Visible Emissions</td>
<td>Once per day</td>
</tr>
</tbody>
</table>

This monitoring condition is necessary because the baghouse for the proposed Dryer/mixer must operate properly to assure compliance with 326 IAC 6.5 (Particulate Emissions Limitations Except Lake County), 326 IAC 2-2 (PSD) and 326 IAC 2-8-4 (FESOP).

Proposed Changes

The following changes listed below are due to the proposed revision. Deleted language appears as strikethrough text and new language appears as bold text:

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) batch-mix, hot-mix asphalt plant, identified as ID-1, constructed in 1969, and modified in 2016 and approved in 2019 for modification (to add a new/replace the dryer drum, and mixing drum with a single dryer-drum/mixer combination drum and to replace the dryer burner, mixing drum, and baghouse), with a maximum throughput capacity of 350 tons of raw material per hour, equipped with one (1) 1200.0 million British thermal units (MMBtu) per hour dryer burner, firing only natural gas, and equipped with one (1) baghouse for particulate control, exhausting through stack SV1. No shingles or slag are used in the production of asphalt pavement at this source. Cold-mix asphalt is not produced at this source.

This source is considered an affected modified hot-mix asphalt facility under the provisions of 40 CFR 60, Subpart I.

(b) Material handling and conveying operations, consisting of the following:
(2) One (1) aggregate handling and transfer system, constructed in 2016, consisting of:

(A) One (1) cold feed system, consisting of six (6) compartments, each with a capacity of thirty (30) tons, for a total aggregate holding capacity of 180 tons;

(B) One (1) feeder conveyors; and

(C) One (1) screen deck; and

(D) One (1) aggregate bucket elevator.

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities, this is considered an affected modified hot-mix asphalt facility.

(4) One (1) hot-mix asphalt drag slat and transfer conveyor to silo, and constructed in 1989. The conveyor is approved in 2019 for construction, with a maximum capacity of 350 tons per hour, without control and exhausting outside.

(5) Five (5) hot-mix asphalt storage silos, two (2) silos constructed in 1989 and 2016, respectively, and three (3) silos approved in 2019 for construction, each with a maximum capacity of 200 tons, without control and exhausting outside.

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

This stationary source also includes the following insignificant activities:

(a) Two (2) asphaltic cement storage tanks, constructed in 1969 and 2019, each with a maximum volume of 230,000 gallons and 22,000 gallons, and with a maximum true vapor pressure of less than 15.0 kPa.

(b) One (1) asphaltic cement storage tank, constructed in 2016 and 2019, with a maximum volume of 30,000 gallons, and with a maximum true vapor pressure of less than 15.0 kPa.

(c) One (1) natural gas-fired hot oil heater, constructed in 2016 and 2019, with a maximum heat input capacity of 1,3042 MMBtu/hr per hour maximum rated capacity.

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

(a) . . .

(4) The Permittee notifies the:

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
SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

<table>
<thead>
<tr>
<th>Emissions Unit Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) One (1) batch-mix, hot-mix asphalt plant, identified as ID-1, constructed in 1969, and modified in 2016 and approved in 2019 for modification to add a new dryer drum, and mixing drum with a single dryer drum/mixer combination drum and to replace the dryer burner, mixing drum, and baghouse, with a maximum throughput capacity of 350 tons of raw material per hour, equipped with one (1) 1200.0 million British thermal units (MMBtu) per hour dryer burner, firing only natural gas, and equipped with one (1) baghouse for particulate control, exhausting through stack SV1. No shingles or slag are used in the production of asphalt pavement at this source. Cold-mix asphalt is not produced at this source. This source is considered an affected modified hot-mix asphalt facility under the provisions of 40 CFR 60, Subpart I.</td>
</tr>
<tr>
<td>(b) Material handling and conveying operations, consisting of the following:</td>
</tr>
<tr>
<td>. . .</td>
</tr>
<tr>
<td>(2) One (1) aggregate handling and transfer system, constructed in 2016, consisting of:</td>
</tr>
<tr>
<td>(A) One (1) cold feed system, consisting of six (6) compartments, each with a capacity of thirty (30) tons, for a total aggregate holding capacity of 180 tons;</td>
</tr>
<tr>
<td>(B) One (1) feeder conveyors; and</td>
</tr>
<tr>
<td>(C) One (1) screen deck; and</td>
</tr>
<tr>
<td>(D) One (1) aggregate bucket elevator.</td>
</tr>
<tr>
<td>Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities, this is considered an affected modified hot-mix asphalt facility.</td>
</tr>
<tr>
<td>. . .</td>
</tr>
<tr>
<td>(4) One (1) hot-mix asphalt drag slat and transfer conveyor to silo, and constructed in 1989, approved in 2019 for construction, with a maximum capacity of 350 tons per hour, without control and exhausting outside.</td>
</tr>
<tr>
<td>(5) Five (5) hot-mix asphalt storage silos, two (2) silos constructed in 1989 and 2016, respectively, and three (3) silos approved in 2019 for construction, each with a maximum capacity of 200 tons, without control and exhausting outside.</td>
</tr>
<tr>
<td>. . .</td>
</tr>
<tr>
<td>Insignificant Activity Description:</td>
</tr>
<tr>
<td>(c) One (1) natural gas-fired hot oil heater, constructed in 1969, identified as ID-2019, with a maximum heat input capacity of 1.3042 MMBtu/hr per hour maximum rated capacity.</td>
</tr>
</tbody>
</table>
Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.3 Particulate Matter (PM) [326 IAC 6.5-1-2]

- Pursuant to 326 IAC 6.5-1-2(c) (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the following units shall each not exceed 0.10 grains per dry standard cubic foot (gr/dscf) for particulate matters.

<table>
<thead>
<tr>
<th>Emission Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot oil heater (ID-2)</td>
</tr>
<tr>
<td>Aggregate storage area</td>
</tr>
</tbody>
</table>

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

In order to demonstrate compliance with D.1.1(b), D.1.2(b), D.1.2(c) and D.1.3, the Permittee shall perform PM, PM10, and PM2.5 testing of the new baghouse, controlling particulate emissions from dryer/mixer, not later than five (5) years from one hundred eighty (180) days after the date of the initial startup of the most recent valid compliance demonstration. The tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. The Permittee shall perform the initial PM2.5 testing from the date of the most recent valid compliance demonstration for PM and PM10. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable particulate matter.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Insignificant Activity Description:

- One (1) natural gas-fired hot oil heater, constructed in 2019, with a maximum heat input capacity of 1.42 MMBtu/hr per hour maximum rated capacity.

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

D.2.1 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from hot oil heater shall be limited to 0.6 pounds per MMBtu heat input.

D.2.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for this facility. Section B - Preventive Maintenance Plan contains the Permittee’s obligation with regard to the preventive maintenance plan required by this condition.
Emissions Unit Description:

(a) One (1) batch-mix, hot-mix asphalt plant, identified as ID-1, constructed in 1969, and modified in 2016 and approved in 2019 for modification to add a new dryer drum, and mixing drum with a single dryer drum/mixer combination drum and to replace the dryer burner, mixing drum, and baghouse, with a maximum throughput capacity of 350 tons of raw material per hour, equipped with one (1) 1200.0 million British thermal units (MMBtu) per hour dryer burner, firing only natural gas, and equipped with one (1) baghouse for particulate control, exhausting through stack SV1. No shingles or slag are used in the production of asphalt pavement at this source. Cold-mix asphalt is not produced at this source.

This source is considered an affected modified hot-mix asphalt facility under the provisions of 40 CFR 60, Subpart I.

(b) Material handling and conveying operations, consisting of the following:

... (2) One (1) aggregate handling and transfer system, constructed in 2016, consisting of:

(A) One (1) cold feed system, consisting of six (6) compartments, each with a capacity of thirty (30) tons, for a total aggregate holding capacity of 180 tons;

(B) One (1) feeder conveyors; and

(C) One (1) screen deck; and

(D) One (1) aggregate bucket elevator.

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities, this is considered an affected modified hot-mix asphalt facility.

(4) One (1) hot-mix asphalt drag slat and transfer conveyor to silo, and constructed in 1989, approved in 2019 for construction, with a maximum capacity of 350 tons per hour, without control and exhausting outside.

(5) Five (5) hot-mix asphalt storage silos, two (2) silos constructed in 1989 and 2016, respectively, and three (3) silos approved in 2019 for construction, each with a maximum capacity of 200 tons, without control and exhausting outside.

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

CERTIFICATION

Source Name: Harding Materials, Inc. LLC

EMERGENCY OCCURRENCE REPORT
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 August 20, 2019. Additional information submitted by the applicant on October 22, 2019.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Permit Revision No. 097-41822-00082. The staff recommends to the Commissioner that the FESOP Significant Permit Revision be approved.

IDEM Contact

(a) If you have any questions regarding this permit, please contact Mehul Sura, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 233-6868 or toll free at 1-800-451-6027, and ask for Mehul Sura or (317) 233-6868.

(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 Air Permits page on the Internet at: http://www.in.gov/idem/airquality/2356.htm; and the Citizens’ Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.
### Appendix A.1: Unlimited Emissions Calculations

**Entire Source - Batch Mix**

**Company Name:** Harding Materials  
**Source Address:** 5145 East 96th St., Indianapolis, 46240  
**SPR No:** 097-41822-00082  
**Reviewer:** Mehul Sura

#### Unlimited/Uncontrolled Potential to Emit (tons/year)

<table>
<thead>
<tr>
<th>Process Description</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>O3</th>
<th>Total HAPs</th>
<th>Worst Case HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dryer Fuel Combustion (worst case)</td>
<td>0.8</td>
<td>3.3</td>
<td>3.3</td>
<td>0.3</td>
<td>83.2</td>
<td>2.4</td>
<td>38.8</td>
<td>0.8</td>
<td>0.8 (hydrogen chloride)</td>
</tr>
<tr>
<td>Dryer/Mixer and Batch Tower (Process)</td>
<td>49056.0</td>
<td>6898.5</td>
<td>413.9</td>
<td>7.1</td>
<td>38.3</td>
<td>12.6</td>
<td>613.2</td>
<td>11.7</td>
<td>4.1 (xylene)</td>
</tr>
<tr>
<td>Asphalt Load-Out, Silo Filling, On-Site Yard</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>0.0</td>
<td>0.0</td>
<td>28.3</td>
<td>4.4</td>
<td>0.44</td>
<td>0.14 (formaldehyde)</td>
</tr>
<tr>
<td>Material Processing and Handling</td>
<td>9.9</td>
<td>4.7</td>
<td>0.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.00 (hexane)</td>
</tr>
<tr>
<td>Hot Oil Heater Fuel Combustion/Process (worst case)</td>
<td>0.012</td>
<td>0.047</td>
<td>0.047</td>
<td>0.004</td>
<td>0.622</td>
<td>0.034</td>
<td>0.522</td>
<td>0.012</td>
<td>0.011 (hexane)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>49068.4</td>
<td>6908.3</td>
<td>419.7</td>
<td>7.3</td>
<td>122.2</td>
<td>41.3</td>
<td>654.9</td>
<td>13.8</td>
<td>4.1 (xylene)</td>
</tr>
</tbody>
</table>
### Appendix A.1: Unlimited Emissions Calculations

#### Entire Source - Batch Mix

**Company Name:** Harding Materials  
**Source Address:** 5145 East 96th St., Indianapolis, 46240  
**SPR No:** 097-41822-00082  
**Reviewer:** Mehul Sura

**Asphalt Plant Maximum Capacity - Batch Mix**

Maximum Hourly Asphalt Production = 350 ton/hr  
Maximum Annual Asphalt Production = 3,066,000 ton/yr  
Maximum Annual Blast Furnace Slag Usage = 100 ton/yr (1.5% sulfur)  
Maximum Annual Steel Slag Usage = 0 ton/yr (0.66% sulfur)  
Maximum Dryer Fuel Input Rate = 100.0 MMBtu/hr  
Natural Gas Usage = 876 MMCF/yr  
No. 2 Fuel Oil Usage = 0 gal/yr (0.50% sulfur)  
No. 4 Fuel Oil Usage = 0 gal/yr (0.50% sulfur)  
Residual (No. 5 or No. 6) Fuel Oil Usage = 0 gal/yr (0.50% sulfur)  
Propane Usage = 0 gal/yr (0.20 gr/100 ft³ sulfur)  
Butane Usage = 0 gal/yr (0.22 gr/100 ft³ sulfur)  
Used/Waste Oil Usage = 0 gal/yr (1.00% sulfur, 0.50% ash, 0.200% chlorine, 0.010% lead)  
Diesel Fuel Usage - Generator < 600 HP = 0 gal/yr  
Diesel Fuel Usage - Generator > 600 HP = 0 gal/yr (0.50% sulfur)

**Unlimited/Uncontrolled Emissions**

<table>
<thead>
<tr>
<th>Process Description</th>
<th>Criteria Pollutants</th>
<th>Hazardous Air Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PM</td>
<td>PM10</td>
</tr>
<tr>
<td>Ducted Emissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dryer Fuel Combustion (worst case)</td>
<td>0.83</td>
<td>3.33</td>
</tr>
<tr>
<td>Dryer/Mixer and Batch Tower (Process)</td>
<td>49,056.00</td>
<td>6,898.50</td>
</tr>
<tr>
<td>Dryer/Mixer Slag Processing (worst case)</td>
<td>0.01</td>
<td>0.05</td>
</tr>
<tr>
<td>Hot Oil Heater Fuel Combustion/Process (worst case)</td>
<td>0.83</td>
<td>3.33</td>
</tr>
<tr>
<td><strong>Total Ducted Emissions</strong></td>
<td>49,194</td>
<td>6,943</td>
</tr>
</tbody>
</table>

**Fugitive Emissions**

<table>
<thead>
<tr>
<th>Process Description</th>
<th>Criteria Pollutants</th>
<th>Hazardous Air Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Load-Out, Silo Filling, On-Site Yard</td>
<td>1.70</td>
<td>1.70</td>
</tr>
<tr>
<td>Material Storage Piles</td>
<td>1.30</td>
<td>0.45</td>
</tr>
<tr>
<td>Material Processing and Handling</td>
<td>9.00</td>
<td>4.68</td>
</tr>
<tr>
<td>Material Crushing, Screening, and Conveying</td>
<td>48.64</td>
<td>17.77</td>
</tr>
<tr>
<td>Bag House and Material Handling (Process)</td>
<td>19.97</td>
<td>13.96</td>
</tr>
<tr>
<td><strong>Total Fugitive Emissions</strong></td>
<td>138.46</td>
<td>44.21</td>
</tr>
</tbody>
</table>

**Totals Unlimited/Uncontrolled PTE**

<p>| | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>49,194</td>
<td>6,943</td>
<td>436.5</td>
<td>7.06</td>
<td>83.84</td>
<td>38.87</td>
<td>618.14</td>
<td>12.15</td>
<td>4.14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Fuel component percentages provided by the source.
### Source: TSD App A.1

#### Unlimited/Uncontrolled Emissions

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Unlimited/Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unlimited/Uncontrolled Potential to Emit (tons/yr)</strong></td>
<td></td>
</tr>
<tr>
<td>Natural Gas (lb/MMCF)</td>
<td>No. 2 Fuel Oil (lb/kgal)</td>
</tr>
<tr>
<td>PM</td>
<td>1.9</td>
</tr>
<tr>
<td>SO2</td>
<td>0.6</td>
</tr>
<tr>
<td>NOx</td>
<td>1.5</td>
</tr>
<tr>
<td>Total PM</td>
<td>24.0</td>
</tr>
<tr>
<td><strong>Hazardous Air Pollutant</strong></td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>1.0E-03</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>1.1E-03</td>
</tr>
<tr>
<td>Propane</td>
<td>2.1E-03</td>
</tr>
<tr>
<td>Toluene</td>
<td>2.1E-03</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>5.9E-04</td>
</tr>
</tbody>
</table>

#### Methodology

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.

<table>
<thead>
<tr>
<th>Natural Gas Usage (MMCF)</th>
<th>Fuel Oil Usage (gal/yr)</th>
<th>Used/Waste Oil Usage (gal/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unlimited/Uncontrolled Potential to Emit (tons/yr)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Gas (lb/MMCF)</td>
<td>No. 2 Fuel Oil (lb/kgal)</td>
<td>No. 6 Fuel Oil (lb/kgal)</td>
</tr>
<tr>
<td>100 MMBtu/hr</td>
<td>13.2</td>
<td>0.00</td>
</tr>
</tbody>
</table>

### Source Address:

5145 East 86th St., Indianapolis, 46240

### SPM No:

087-1122-00082

### Reviewer:

Mohit Sora

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**

- **Natural Gas Usage**: 100 MMBtu/hr
- **Fuel Oil Usage**: 13.2 gal/yr
- **Used/Waste Oil Usage**: 0 gal/yr

### Source Address:

5145 East 86th St., Indianapolis, 46240

### SPM No:

087-1122-00082

### Reviewer:

Mohit Sora

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**

- **Natural Gas Usage**: 100 MMBtu/hr
- **Fuel Oil Usage**: 13.2 gal/yr
- **Used/Waste Oil Usage**: 0 gal/yr

### Source Address:

5145 East 86th St., Indianapolis, 46240

### SPM No:

087-1122-00082

### Reviewer:

Mohit Sora

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

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No.: 024-14522-000002
Reviewer: Mehul Sura

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

<table>
<thead>
<tr>
<th>Maximum Fuel Input Rate (MMBtu/hr)</th>
<th>Natural Gas Usage (MMCF/yr)</th>
<th>No. 2 Fuel Oil Usage (gal/yr) and % sulfur</th>
<th>No. 4 Fuel Oil Usage (gal/yr) and % sulfur</th>
<th>Residual (No. 5 or No. 6) Fuel Oil Usage (gal/yr) and % sulfur</th>
<th>Propane Usage (gal/yr) and % sulfur</th>
<th>Butane Usage (gal/yr) and % sulfur</th>
<th>Used/Waste Oil Usage (gal/yr), % sulfur, % chlorine, % ash, % lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 MMBtu/hr</td>
<td>876 MMCF/yr</td>
<td>0 gal/yr and 0.50 % sulfur</td>
<td>0 gal/yr and 0.50 % sulfur</td>
<td>0 gal/yr and 1.00 % sulfur, 0.50 % chlorine, 0.200 % chlorine, 0.010 % lead</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Unlimited/Uncontrolled Emissions

<table>
<thead>
<tr>
<th>Chemical Formula</th>
<th>Global Warming Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2</td>
<td>1</td>
</tr>
<tr>
<td>CH4</td>
<td>25</td>
</tr>
<tr>
<td>N2O</td>
<td>298</td>
</tr>
</tbody>
</table>

#### Emission Factors (tons/yr)

<table>
<thead>
<tr>
<th>Gas, Including Water Vapor (MMCF)</th>
<th>CO2e Equivalent Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2</td>
<td>52,945.34</td>
</tr>
<tr>
<td>CH4</td>
<td>0.00</td>
</tr>
<tr>
<td>N2O</td>
<td>0.00</td>
</tr>
</tbody>
</table>

### Methodology

- **PTE** = Potential to Emit
- Fuel Usage from TSD Appendix A.1, page 1 of 14.
- Maximum Fuel Input Rate = [Maximum Fuel Input Rate (MMBtu/hr)]
- Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
- Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]
- Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]
- Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
- 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 1.3 (dated 5/10), Table 1.3-8.
Company Name: Harding Materials  
Source Address: 5145 East 86th St., Indianapolis, 46240  
SPR No: 097-41622-00082  
Reviewer: Mehul Sura

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing and the batch tower.

Maximum Hourly Asphalt Production = 350 ton/hr
Maximum Annual Asphalt Production = 3,066,000 ton/yr

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Worse Case PTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM**</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>49056</td>
<td>0</td>
<td>0</td>
<td>49056</td>
</tr>
<tr>
<td>PM2.5**</td>
<td>0.27</td>
<td>0.27</td>
<td>0.27</td>
<td>413.91</td>
<td>0</td>
<td>0</td>
<td>413.9</td>
</tr>
<tr>
<td>SO2**</td>
<td>0.0046</td>
<td>0.088</td>
<td>0.088</td>
<td>7.1</td>
<td>0</td>
<td>0</td>
<td>7.1</td>
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<tr>
<td>NO2**</td>
<td>0.1025</td>
<td>0.12</td>
<td>0.12</td>
<td>38.3</td>
<td>0</td>
<td>0</td>
<td>38.3</td>
</tr>
<tr>
<td>VOC**</td>
<td>0.0082</td>
<td>0.0082</td>
<td>0.0086</td>
<td>12.6</td>
<td>0</td>
<td>0</td>
<td>12.6</td>
</tr>
<tr>
<td>CO***</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>613.2</td>
<td>0</td>
<td>0</td>
<td>613.2</td>
</tr>
</tbody>
</table>

Hazardous Air Pollutant

<table>
<thead>
<tr>
<th>Hazardous Air Pollutant</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Worse Case PTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>4.6E-07</td>
<td>4.6E-07</td>
<td>4.6E-07</td>
<td>7.05E-04</td>
<td>0</td>
<td>0</td>
<td>7.05E-04</td>
</tr>
<tr>
<td>Benzene</td>
<td>1.5E-07</td>
<td>1.5E-07</td>
<td>1.5E-07</td>
<td>2.30E-04</td>
<td>0</td>
<td>0</td>
<td>2.30E-04</td>
</tr>
<tr>
<td>Cadmium</td>
<td>6.1E-07</td>
<td>6.1E-07</td>
<td>6.1E-07</td>
<td>3.30E-04</td>
<td>0</td>
<td>0</td>
<td>3.30E-04</td>
</tr>
<tr>
<td>Chromium</td>
<td>5.7E-07</td>
<td>5.7E-07</td>
<td>5.7E-07</td>
<td>8.74E-04</td>
<td>0</td>
<td>0</td>
<td>8.74E-04</td>
</tr>
<tr>
<td>Lead</td>
<td>8.9E-07</td>
<td>8.9E-07</td>
<td>8.9E-07</td>
<td>1.30E-03</td>
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<td>0</td>
<td>1.30E-03</td>
</tr>
<tr>
<td>Manganese</td>
<td>6.9E-06</td>
<td>6.9E-06</td>
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<td>0</td>
<td>1.00E-02</td>
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<tr>
<td>Mercury</td>
<td>4.1E-07</td>
<td>4.1E-07</td>
<td>4.1E-07</td>
<td>6.20E-04</td>
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<td>6.20E-04</td>
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<td>Nickel</td>
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<td>3.0E-06</td>
<td>3.0E-06</td>
<td>4.60E-03</td>
<td>0</td>
<td>0</td>
<td>4.60E-03</td>
</tr>
<tr>
<td>Nickel</td>
<td>4.8E-05</td>
<td>4.8E-05</td>
<td>4.8E-05</td>
<td>7.51E-04</td>
<td>0</td>
<td>0</td>
<td>7.51E-04</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>3.20E-04</td>
<td>3.20E-04</td>
<td>3.20E-04</td>
<td>0.49</td>
<td>0</td>
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<td>0.49</td>
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<tr>
<td>Benzene</td>
<td>2.50E-04</td>
<td>2.50E-04</td>
<td>2.50E-04</td>
<td>0.43</td>
<td>0</td>
<td>0</td>
<td>0.43</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>2.20E-03</td>
<td>2.20E-03</td>
<td>2.20E-03</td>
<td>3.37</td>
<td>0</td>
<td>0</td>
<td>3.37</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>7.4E-04</td>
<td>7.4E-04</td>
<td>7.4E-04</td>
<td>1.13</td>
<td>0</td>
<td>0</td>
<td>1.13</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>2.10E-04</td>
<td>2.10E-04</td>
<td>2.10E-04</td>
<td>4.01</td>
<td>0</td>
<td>0</td>
<td>4.01</td>
</tr>
<tr>
<td>Total PAH Haps</td>
<td>1.1E-04</td>
<td>1.1E-04</td>
<td>1.1E-04</td>
<td>0.17</td>
<td>0</td>
<td>0</td>
<td>0.17</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>2.70E-05</td>
<td>2.70E-05</td>
<td>2.70E-05</td>
<td>4.14</td>
<td>0</td>
<td>0</td>
<td>4.14</td>
</tr>
</tbody>
</table>

Methodology

Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (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.

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

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

Abbreviations

PM = Particulate Matter  
SO2 = Sulfur Dioxide  
CD = Carbon Monoxide  
NOx = Nitrous Oxides  
PM10 = Particulate Matter (>10 um)  
HAP = Hazardous Air Pollutant  
PM2.5 = Particulate Matter (< 2.5 um)  
VOC = Volatile Organic Compounds  
HCl = Hydrogen Chloride
The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing process.

Maximum Hourly Asphalt Production = 350 ton/hr
Maximum Annual Asphalt Production = 3,066,000 ton/yr

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

### Emission Factors

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2</td>
<td>37</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>CH4</td>
<td>0.0074</td>
<td>0.0074</td>
<td>0.0074</td>
</tr>
<tr>
<td>N2O</td>
<td>298</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Global Warming Potentials (GWP)

- CO2: 1
- CH4: 25
- N2O: 298

### CO2e Equivalent Emissions (tons/yr)

| CO2e Equivalent Emissions (tons/yr) | 57,004.61 | 57,004.61 | 57,004.61 |

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.

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

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs) * (Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) * CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) * CH4 GWP (25) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) * N2O GWP (298)).

Abbreviations
- CO2 = Carbon Dioxide
- CH4 = Methane
- N2O = Nitrogen Dioxide
- PTE = Potential to Emit
Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer Slag Processing

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

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

Maximum Annual Blast Furnace Slag Usage = 100 ton/yr 1.5% sulfur
Maximum Annual Steel Slag Usage = 0 ton/yr 0.66% sulfur

<table>
<thead>
<tr>
<th>Type of Slag</th>
<th>SO2 Emission Factor (lb/ton)</th>
<th>Unlimited Potential to Emit SO2 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blast Furnace Slag*</td>
<td>0.00</td>
<td>0.0</td>
</tr>
<tr>
<td>Steel Slag**</td>
<td>0.0000</td>
<td>0.0</td>
</tr>
</tbody>
</table>

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.

Abbreviations
SO2 = Sulfur Dioxide
# Appendix A.1: Unlimited Emissions Calculations

## Hot Oil Heater

### Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

**Company Name:** Harding Materials  
**Source Address:** 5145 East 96th St., Indianapolis, 46240  
**SPR No:** 097-41822-00082  
**Reviewer:** Mehul Sura

Maximum Hot Oil Heater Fuel Input Rate = 1.42 MMBtu/hr  
Natural Gas Usage = 12 MMCF/yr  
No. 2 Fuel Oil Usage = 0 gal/yr, and 0.50 % sulfur

### Unlimited/Uncontrolled Emissions

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas (lb/MMCF)</th>
<th>No. 2 Fuel Oil (lb/kgal)</th>
<th>Natural Gas (tons/yr)</th>
<th>No. 2 Fuel Oil (tons/yr)</th>
<th>Worse Case Fuel (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>1.9</td>
<td>2.0</td>
<td>0.012</td>
<td>0.000</td>
<td>0.01</td>
</tr>
<tr>
<td>PM10/PM2.5</td>
<td>7.6</td>
<td>3.3</td>
<td>0.047</td>
<td>0.000</td>
<td>0.05</td>
</tr>
<tr>
<td>SO2</td>
<td>0.6</td>
<td>71.0</td>
<td>0.004</td>
<td>0.000</td>
<td>0.00</td>
</tr>
<tr>
<td>NOx</td>
<td>100</td>
<td>20.0</td>
<td>0.622</td>
<td>0.000</td>
<td>0.62</td>
</tr>
<tr>
<td>VOC</td>
<td>5.5</td>
<td>0.20</td>
<td>0.034</td>
<td>0.000</td>
<td>0.03</td>
</tr>
<tr>
<td>CO</td>
<td>84</td>
<td>5.0</td>
<td>0.022</td>
<td>0.000</td>
<td>0.02</td>
</tr>
</tbody>
</table>

### Hazardous Air Pollutant

| Arsenic            | 2.0E-04                | 5.6E-04                  | 1.2E-06               | 0.00E+00                 | 1.2E-06                   |
| Cadmium            | 1.2E-05                | 4.2E-04                  | 7.5E-08               | 0.00E+00                 | 7.5E-08                   |
| Chromium           | 1.4E-03                | 4.2E-04                  | 8.7E-06               | 0.00E+00                 | 8.7E-06                   |
| Lead               | 6.4E-05                | 5.2E-07                  | 3.1E-06               | 0.00E+00                 | 3.1E-06                   |
| Manganese          | 3.8E-04                | 8.4E-04                  | 2.4E-06               | 0.00E+00                 | 2.4E-06                   |
| Mercury            | 2.6E-04                | 4.2E-04                  | 1.6E-06               | 0.00E+00                 | 1.6E-06                   |
| Nickel             | 2.1E-03                | 4.2E-04                  | 1.3E-05               | 0.00E+00                 | 1.3E-05                   |
| Selenium           | 2.4E-05                | 2.1E-03                  | 1.5E-07               | 0.00E+00                 | 1.5E-07                   |
| Benzene            | 2.1E-03                | 1.3E-05                  | 1.3E-05               | 0.00E+00                 | 1.3E-05                   |
| Dichlorobenzene    | 1.2E-03                | 7.5E-06                  | 1.2E-06               | 0.00E+00                 | 1.2E-06                   |
| Ethylbenzene       | 5.0E-05                | 1.1E-02                  | 5.0E-05               | 0.00E+00                 | 5.0E-05                   |
| Formaldehyde       | 7.5E-02                | 6.1E-02                  | 4.7E-04               | 0.00E+00                 | 4.7E-04                   |
| Hexane             | 1.8E+00                | 0.01                     | 1.8E+00               | 0.00E+00                 | 1.8E+00                   |
| Phenol             | 5.0E-04                | 0.00E+00                 | 5.0E-04               | 0.00E+00                 | 5.0E-04                   |
| Toluene            | 6.4E-05                | 2.1E-05                  | 2.1E-05               | 0.00E+00                 | 2.1E-05                   |
| Total PAH Haps     | negi                   | negi                     | negi                  | 0.00E+00                 | 0.00E+00                   |
| Total HAPs =       | 1.2E-02                | 0.0E+00                  | 1.2E-02               | 0.0E+00                  | 1.2E-02                   |

### Methodology

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

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

### Abbreviations

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

**Company Name:** Harding Materials  
**Source Address:** 5145 East 96th St., Indianapolis, 46240  
**SPR No:** 097-41822-00082  
**Reviewer:** Mehul Sura

- **Maximum Hot Oil Heater Fuel Input Rate:** 1.42 MMBtu/hr  
- **Natural Gas Usage:** 12.44 MMCF/yr  
- **No. 2 Fuel Oil Usage:** 0.00 gal/yr, 0.50 % sulfur

#### Unlimited/Uncontrolled Emissions

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas EF (lb/MMCF)</th>
<th>No. 2 Fuel Oil EF (lb/kgal)</th>
<th>Global Warming Potentials (GWP)</th>
<th>Unlimited/Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2</td>
<td>120,161.84</td>
<td>22,501.41</td>
<td>1</td>
<td>747.36</td>
</tr>
<tr>
<td>CH4</td>
<td>2.49</td>
<td>0.91</td>
<td>25</td>
<td>0.02</td>
</tr>
<tr>
<td>N2O</td>
<td>2.2</td>
<td>0.26</td>
<td>298</td>
<td>0.01</td>
</tr>
</tbody>
</table>

#### CO2e Equivalent Emissions (tons/yr)

| CO2e Equivalent Emissions (tons/yr) | 751.82 | 0.00 |

#### Methodology

1. **Global Warming Potentials (GWP)** from Table A-1 of 40 CFR Part 98 Subpart A.
2. Equivalent Natural Gas Usage (MMCF/yr) = \( \text{[Maximum Fuel Input Rate (MMBtu/hr)] \times [8,760 hrs/yr] \times [1 MMCF/1,000 MMBtu]} \)
3. Equivalent Oil Usage (gal/yr) = \( \text{[Maximum Fuel Input Rate (MMBtu/hr)] \times [8,760 hrs/yr] \times [1 gal/0.140 MMBtu]} \)
4. Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
   - Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2
   - No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 5/10), Table 1.3-8
5. Emission Factor (EF) Conversions
   - Natural Gas: \( \text{EF (lb/MMCF) = [EF (kg/mmBtu)] \times [Conversion Factor (2.20462 lbs/kg)] \times [Heating Value of Natural Gas (MMBtu/scf)] \times [Conversion Factor (1,000,000 scf/MMCF)]} \)
   - Fuel Oils: \( \text{EF (lb/kgal) = [EF (kg/mmBtu)] \times [Conversion Factor (2.20462 lbs/kg)] \times [Heating Value of the Fuel Oil (MMBtu/gal)] \times [Conversion Factor (1000 gal/kgal)]} \)
6. Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = \( \text{[Maximum Natural Gas Usage (MMCF/yr)] \times [Emission Factor (lb/MMCF)] \times [ton/2000 lbs]} \)
7. All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = \( \text{[Maximum Fuel Usage (gal/yr)] \times [Emission Factor (lb/kgal)] \times [kgal/1000 gal] \times [ton/2000 lbs]} \)

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

Hot Oil Heating System - Process Emissions

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

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

Maximum Fuel Input Rate To Hot Oil Heater = 1.42 MMBtu/hr
Natural Gas Usage = 12.44 MMCF/yr, and
No. 2 Fuel Oil Usage = 0.00 gal/yr

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas (lb/ft³)</th>
<th>No. 2 Fuel Oil (lb/gal)</th>
<th>Natural Gas (tons/yr)</th>
<th>No. 2 Fuel Oil (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC</td>
<td>2.60E-08</td>
<td>2.65E-05</td>
<td>1.62E-04</td>
<td>0.000</td>
</tr>
<tr>
<td>CO</td>
<td>8.90E-08</td>
<td>0.0012</td>
<td>0.055</td>
<td>0.000</td>
</tr>
<tr>
<td>Uncontrolled Potential to Emit (tons/yr)</td>
<td>1243.92</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CO2</td>
<td>0.20</td>
<td>28.00</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

Hazardous Air Pollutant

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas (lb/ft³)</th>
<th>No. 2 Fuel Oil (lb/gal)</th>
<th>Natural Gas (tons/yr)</th>
<th>No. 2 Fuel Oil (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde</td>
<td>2.60E-08</td>
<td>3.50E-06</td>
<td>1.62E-04</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Acenaphthylene</td>
<td>5.30E-07</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>1.62E-04</td>
</tr>
<tr>
<td>Acenaphthylene</td>
<td>2.00E-07</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Anthracene</td>
<td>1.80E-07</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Benzo(b)fluoranthene</td>
<td>1.00E-07</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Fluorene</td>
<td>4.40E-08</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Fluorene</td>
<td>4.40E-08</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Fluorene</td>
<td>3.20E-08</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>1.70E-05</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>4.90E-06</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Pyrene</td>
<td>3.20E-08</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
</tbody>
</table>

Total HAPs 1.62E-04

Worst Single HAP 1.62E-04 (Naphthalene)

Methodology

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

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Table 11.1-13

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

Abbreviations
CO = Carbon Monoxide  VOC = Volatile Organic Compound  CO2 = Carbon Dioxide
Appendix A.1: Unlimited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

Asphalt Temperature, T = 325 F
Asphalt Volatility Factor, V = -0.5
Maximum Annual Asphalt Production = 3,066,000 tons/yr

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.

### Emission Factor (lb/ton asphalt)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Load-Out</th>
<th>Silo Filling</th>
<th>On-Site Yard</th>
<th>Load-Out</th>
<th>Silo Filling</th>
<th>On-Site Yard</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PM*</td>
<td>5.2E-04</td>
<td>5.9E-04</td>
<td>NA</td>
<td>0.80</td>
<td>0.90</td>
<td>NA</td>
<td>1.70</td>
</tr>
<tr>
<td>Organic PM</td>
<td>3.4E-04</td>
<td>2.5E-04</td>
<td>NA</td>
<td>0.52</td>
<td>0.389</td>
<td>NA</td>
<td>0.91</td>
</tr>
<tr>
<td>TOC</td>
<td>0.004</td>
<td>0.012</td>
<td>0.001</td>
<td>6.38</td>
<td>18.68</td>
<td>1.686</td>
<td>26.7</td>
</tr>
<tr>
<td>CO</td>
<td>0.001</td>
<td>0.001</td>
<td>3.5E-04</td>
<td>2.07</td>
<td>1.809</td>
<td>0.540</td>
<td>4.42</td>
</tr>
</tbody>
</table>

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

PM/HAPs 0.037 0.044 0 0.081
VOC/HAPs 0.094 0.238 0.025 0.357
non-VOC/HAPs 4.9E-04 5.0E-05 1.3E-04 6.7E-04
non-VOC/non-HAPs 0.46 0.26 0.12 0.85

Total VOCs 5.99 18.68 1.6 26.3
Total HAPs 0.13 0.28 0.025 0.44

Worst Single HAP 0.136 (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)


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

- **Total PM/PM10/PM2.5 Ef**
  \[
  \text{Ef} = 0.000181 + 0.00141(-V)e^{(0.0251)(T+460)-20.43}
  \]
- **Organic PM Ef**
  \[
  \text{Ef} = 0.00141(-V)e^{(0.0251)(T+460)-20.43}
  \]
- **TOC Ef**
  \[
  \text{Ef} = 0.0172(-V)e^{(0.0251)(T+460)-20.43}
  \]
- **CO Ef**
  \[
  \text{Ef} = 0.00558(-V)e^{(0.0251)(T+460)-20.43}
  \]

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

- **PM/PM10 Ef**
  \[
  \text{Ef} = 0.000332 + 0.00105(-V)e^{(0.0251)(T+460)-20.43}
  \]
- **Organic PM Ef**
  \[
  \text{Ef} = 0.00105(-V)e^{(0.0251)(T+460)-20.43}
  \]
- **TOC Ef**
  \[
  \text{Ef} = 0.0504(-V)e^{(0.0251)(T+460)-20.43}
  \]
- **CO Ef**
  \[
  \text{Ef} = 0.00488(-V)e^{(0.0251)(T+460)-20.43}
  \]

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

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

### Abbreviations

- TOC = Total Organic Compounds
- CO = Carbon Monoxide
- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- PM2.5 = Particulate Matter (<2.5 um)
- HAP = Hazardous Air Pollutant
- VOC = Volatile Organic Compound
Appendix A.1: Unlimited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

Organic Particulate-Based Compounds (Table 11.1-15)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>CASRN</th>
<th>Category</th>
<th>HAP Type</th>
<th>Source</th>
<th>Speciation Profile</th>
<th>Unlimited/Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Load-out</td>
</tr>
<tr>
<td>PAH HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(%) by weight of Total Organic PM</td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>83-32-9</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.26%</td>
<td>0.47%</td>
</tr>
<tr>
<td>Acenaphthylene</td>
<td>208-96-8</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.029%</td>
<td>0.014%</td>
</tr>
<tr>
<td>Anthracene</td>
<td>120-12-7</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.07%</td>
<td>0.13%</td>
</tr>
<tr>
<td>Benz[a]anthracene</td>
<td>56-55-3</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.019%</td>
<td>0.056%</td>
</tr>
<tr>
<td>Benzo[b]fluoranthene</td>
<td>205-99-2</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0076%</td>
<td>0</td>
</tr>
<tr>
<td>Benzo[k]fluoranthene</td>
<td>207-08-9</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0023%</td>
<td>0</td>
</tr>
<tr>
<td>Benzo[g,h,i]perylene</td>
<td>191-24-2</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0019%</td>
<td>0</td>
</tr>
<tr>
<td>Benzo[a]pyrene</td>
<td>50-32-8</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0023%</td>
<td>0</td>
</tr>
<tr>
<td>Benzo[e]pyrene</td>
<td>192-97-2</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0076%</td>
<td>0.0098%</td>
</tr>
<tr>
<td>Chrysene</td>
<td>218-51-9</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.103%</td>
<td>0.21%</td>
</tr>
<tr>
<td>Dibenzo[a,h]anthracene</td>
<td>53-70-3</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0037%</td>
<td>0</td>
</tr>
<tr>
<td>Fluoranthene</td>
<td>206-44-0</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.05%</td>
<td>0.15%</td>
</tr>
<tr>
<td>Fluorene</td>
<td>86-73-7</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.77%</td>
<td>1.01%</td>
</tr>
<tr>
<td>Indeno(1,2,3-cd)pyrene</td>
<td>193-39-5</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.00047%</td>
<td>0</td>
</tr>
<tr>
<td>2-Methylfluorethene</td>
<td>91-57-6</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>2.38%</td>
<td>5.27%</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>1.25%</td>
<td>1.82%</td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>85-01-8</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.81%</td>
<td>1.80%</td>
</tr>
<tr>
<td>Pyrene</td>
<td>129-00-0</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.15%</td>
<td>0.44%</td>
</tr>
<tr>
<td>Total PAH HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Load-out</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.031</td>
</tr>
<tr>
<td>Other semi-volatile HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td></td>
<td>---</td>
<td>Organic PM</td>
<td></td>
<td>1.18%</td>
<td>0</td>
</tr>
</tbody>
</table>

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

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

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)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>CASRN</th>
<th>Category</th>
<th>HAP Type</th>
<th>Speciation Profile</th>
<th>Unlimited/Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Load-out and Onsite Yard (% by weight of TOC)</td>
<td>Silo Filling and Asphalt Storage Tank (% by weight of TOC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Load-out</td>
<td>Silo Filling</td>
</tr>
<tr>
<td>VOC</td>
<td>---</td>
<td>TOC</td>
<td>94%</td>
<td>100%</td>
<td>5.99</td>
</tr>
<tr>
<td>non-VOC/non-HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methane</td>
<td>74-82-8</td>
<td>non-VOC/non-HAP</td>
<td>---</td>
<td>TOC</td>
<td>6.50%</td>
</tr>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>non-VOC/non-HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.046%</td>
</tr>
<tr>
<td>Ethylene</td>
<td>74-85-1</td>
<td>non-VOC/non-HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.71%</td>
</tr>
<tr>
<td>Total non-VOC/non-HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volatile organic HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.052%</td>
</tr>
<tr>
<td>Bromomethane</td>
<td>74-83-9</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.0996%</td>
</tr>
<tr>
<td>2-Butanone</td>
<td>78-93-3</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.049%</td>
</tr>
<tr>
<td>Carbon Disulfide</td>
<td>75-15-0</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.013%</td>
</tr>
<tr>
<td>Chloroethane</td>
<td>75-50-3</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.00021%</td>
</tr>
<tr>
<td>Chloromethane</td>
<td>74-87-7</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.015%</td>
</tr>
<tr>
<td>Ethylene</td>
<td>92-62-6</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.11%</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.28%</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>50-00-0</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.088%</td>
</tr>
<tr>
<td>n-Hexane</td>
<td>100-54-3</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.19%</td>
</tr>
<tr>
<td>Isooctane</td>
<td>540-84-1</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.0018%</td>
</tr>
<tr>
<td>Methylen Chloride</td>
<td>75-09-2</td>
<td>non-VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0</td>
</tr>
<tr>
<td>MTBE</td>
<td>1634-04-4</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0</td>
</tr>
<tr>
<td>Styrene</td>
<td>100-42-5</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.0073%</td>
</tr>
<tr>
<td>Tetrachloroethene</td>
<td>127-18-4</td>
<td>non-VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.0071%</td>
</tr>
<tr>
<td>Toluene</td>
<td>100-88-3</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.21%</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane</td>
<td>11-35-6</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0</td>
</tr>
<tr>
<td>Trichloroethene</td>
<td>79-01-6</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0</td>
</tr>
<tr>
<td>Trichlorofluoromethane</td>
<td>73-69-4</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.0013%</td>
</tr>
<tr>
<td>m,p-Xylene</td>
<td>1330-20-7</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.41%</td>
</tr>
<tr>
<td>o-Xylene</td>
<td>95-47-6</td>
<td>VOC/HAP</td>
<td>---</td>
<td>TOC</td>
<td>0.08%</td>
</tr>
<tr>
<td>Total volatile organic HAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Methodology

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


#### 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: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

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

\[ Ef = 1.7 \times (s/1.5) \times (365-p)/235 \times (f/15) \]

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

<table>
<thead>
<tr>
<th>Material</th>
<th>Silt Content (wt %)*</th>
<th>Emission Factor (lb/acre/day)</th>
<th>Maximum Anticipated Pile Size (acres)**</th>
<th>PTE of PM (tons/yr)</th>
<th>PTE of PM10/PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>2.6</td>
<td>3.01</td>
<td>0.50</td>
<td>0.275</td>
<td>0.096</td>
</tr>
<tr>
<td>Limestone</td>
<td>1.6</td>
<td>1.85</td>
<td>0.50</td>
<td>0.169</td>
<td>0.059</td>
</tr>
<tr>
<td>RAP</td>
<td>0.5</td>
<td>0.58</td>
<td>6.50</td>
<td>0.687</td>
<td>0.240</td>
</tr>
<tr>
<td>Gravel</td>
<td>1.6</td>
<td>1.85</td>
<td>0.50</td>
<td>0.169</td>
<td>0.059</td>
</tr>
<tr>
<td>Shingles</td>
<td>0.5</td>
<td>0.58</td>
<td>0.00</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Slag</td>
<td>3.8</td>
<td>4.40</td>
<td>0.00</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

| Totals   | 1.30                | 0.45                          |                                        |                     |                           |

Methodology

\[ \text{PTE of PM (tons/yr)} = (\text{Emission Factor (lb/acre/day)}) \times (\text{Maximum Pile Size (acres)}) \times (\text{ton/2000 lbs}) \times (8760 \text{ hours/yr}) \]

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

*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
Appendix A.1: Unlimited Emissions Calculations

Material Processing, Handling, Crushing, Screening, and Conveying

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

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, 1995) are utilized.

\[ Ef = k \times (0.0032) \times [(U/5)^{1.3} / (M/2)^{1.4}] \]

where:
- \( Ef \) = Emission factor (lb/ton)
- \( k \) (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
- \( k \) (PM10) = 0.0853 = particle size multiplier (0.0853 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)

\[ EF (PM) = 2.27E-03 \text{ lb PM/ton of material handled} \]
\[ EF (PM10) = 1.07E-03 \text{ lb PM10/ton of material handled} \]
\[ EF (PM2.5) = 1.62E-04 \text{ lb PM2.5/ton of material handled} \]

Maximum Annual Asphalt Production = 3,066,000 tons/yr

Percent Asphalt Cement/Binder (weight %) = 5.0%

Maximum Material Handling Throughput = 2,912,700 tons/yr

<table>
<thead>
<tr>
<th>Type of Activity</th>
<th>Unlimited/Uncontrolled PTE of PM (tons/yr)</th>
<th>Unlimited/Uncontrolled PTE of PM10 (tons/yr)</th>
<th>Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck unloading of materials into storage piles</td>
<td>3.30</td>
<td>1.56</td>
<td>0.24</td>
</tr>
<tr>
<td>Front-end loader dumping of materials into feeder bins</td>
<td>3.30</td>
<td>1.56</td>
<td>0.24</td>
</tr>
<tr>
<td>Conveyor dropping material into dryer/mixer or batch tower</td>
<td>3.30</td>
<td>1.56</td>
<td>0.24</td>
</tr>
</tbody>
</table>

Total (tons/yr) = 9.90

Methodology

The percent asphalt cement/binder provided by the source.

\[ \text{Maximum Material Handling Throughput (tons/yr)} = \left( \text{Annual Asphalt Production Limitation (tons/yr)} \right) \times \left( 1 - \text{Percent Asphalt Cement/Binder (weight %)} \right) \]

Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) \times \left( \text{Emission Factor (lb/ton)} \right) \times \left( \frac{\text{ton}}{2000 \text{ lbs}} \right)

Raw materials may include stone/gravel, slag, and 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 processing and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 11.19.2 (dated 8/04) are utilized.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Uncontrolled Emission Factor for PM (lbs/ton)*</th>
<th>Uncontrolled Emission Factor for PM10 (lbs/ton)*</th>
<th>Unlimited/Uncontrolled PTE of PM (tons/yr)</th>
<th>Unlimited/Uncontrolled PTE of PM10 (tons/yr)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crushing</td>
<td>0.0054</td>
<td>0.0024</td>
<td>7.86</td>
<td>3.50</td>
</tr>
<tr>
<td>Screening</td>
<td>0.0280</td>
<td>0.0087</td>
<td>36.41</td>
<td>12.67</td>
</tr>
<tr>
<td>Conveying</td>
<td>0.0011</td>
<td>0.0003</td>
<td>4.37</td>
<td>1.60</td>
</tr>
</tbody>
</table>

Unlimited Potential to Emit (tons/yr) = 48.64

Methodology

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

Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) \times \left( \text{Emission Factor (lb/ton)} \right) \times \left( \frac{\text{ton}}{2000 \text{ lbs}} \right)

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:** Harding Materials  
**Source Address:** 5145 East 96th St., Indianapolis, 46240  
**SPR No.:** 097-41822-00082  
**Reviewer:** Mehul Sura

**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).

<table>
<thead>
<tr>
<th>Process</th>
<th>Vehicle Type</th>
<th>Maximum Weight of Vehicle (tons)</th>
<th>Maximum Weight of Load (tons)</th>
<th>Maximum trips per year (trip/yr)</th>
<th>Maximum one-way distance (mi/trip)</th>
<th>Maximum one-way miles (mile/yr)</th>
<th>Max Weight of Load (tons/trip)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dump Truck (Full)</td>
<td>20.0</td>
<td>4.8</td>
<td>1.5</td>
<td>0.15</td>
<td>0.071</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front-End Loader (Full)</td>
<td>15.0</td>
<td>0</td>
<td>15.0</td>
<td>73,000</td>
<td>1,248,300</td>
<td>634</td>
<td>0.120</td>
</tr>
<tr>
<td>Front-End Loader (Empty)</td>
<td>15.0</td>
<td>0</td>
<td>15.0</td>
<td>73,000</td>
<td>1,248,300</td>
<td>634</td>
<td>0.120</td>
</tr>
</tbody>
</table>

**Average Vehicle Weight Per Trip =** 

\[ \frac{24.7 \text{ tons}}{1 \text{ trip}} \]

**Average Miles Per Trip =** 

\[ \frac{0.071 \text{ miles}}{1 \text{ trip}} \]

**Unmitigated Emission Factor, \( E_f \) = \[ k \cdot \left( \frac{(365 - P)}{365} \right) \] (Equation 1a from AP-42 13.2.2) where \( k \): particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)

- \( a \): 4.5
- \( b \): 4.8
- \( c \): 4.8
- \( W \): average vehicle weight (provided by source)

**Mitigated Emission Factor, \( E_{ext} \) = \[ \frac{W}{(365 - P) \cdot 100} \] where \( P \): Days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

**Maximum one-way distance (mi/trip) =** 

\[ \frac{0.071 \text{ miles}}{1 \text{ trip}} \]

**Maximum one-way miles (mile/yr) =** 

\[ \frac{0.071 \text{ miles}}{1 \text{ trip}} \cdot 8760 \text{ trips/year} \]

**Total Weight driven per year (ton/yr) =** 

\[ \text{Maximum one-way miles (mile/yr)} \cdot \text{Maximum Weight of Vehicle and Load (tons/trip)} \]

**Maximum Weight of Vehicle and Load (tons/trip) =** 

\[ \text{Maximum Weight of Vehicle (tons/trip)} + \text{Maximum Weight of Load (tons/trip)} \]

**Maximum Weight of Vehicle (tons/trip) =** 

\[ \text{Average Vehicle Weight Per Trip} \]

**Maximum Weight of Load (tons/trip) =** 

\[ \text{Average Vehicle Weight Per Trip} - \text{Maximum Weight of Vehicle (tons/trip)} \]

**Methodology**

**Maximum Asphalt Cement/Binder Throughput =** 

\[ \text{Annual Asphalt Production Limitation (tons/yr)} \cdot \text{Percent Asphalt Cement/Binder (weight %)} \]

**Maximum Material Handling Throughput =** 

\[ \text{Annual Asphalt Production Limitation (tons/yr)} \cdot (1 - \text{Percent Asphalt Cement/Binder (weight %)}) \]

**Maximum No. 2 Fuel Oil Usage =** 

\[ \text{Maximum one-way miles (mile/yr)} \cdot \text{Mitigated Emission Factor (lb/mile)} \]

**Mitigated Emission Factor =** 

\[ \frac{W}{(365 - P) \cdot 100} \]

**Controlled Emission Factor =** 

\[ \text{Mitigated Emission Factor} \cdot \text{Dust Control Efficiency} \]

**Dust Control Efficiency =** 

\[ \frac{W}{(365 - P) \cdot 100} \]

**Unmitigated PTE (tons/yr) =** 

\[ \text{Maximum one-way miles (mile/yr)} \cdot \text{Unmitigated Emission Factor (lb/mile)} \]

**Mitigated PTE (tons/yr) =** 

\[ \text{Maximum one-way miles (mile/yr)} \cdot \text{Mitigated Emission Factor (lb/mile)} \cdot \text{Dust Control Efficiency} \]

**Abbreviations**

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

**PM10** = Particulate Matter (<10 um)  
**PM2.5** = Particulate Matter (<2.5 um)
### Paved Roads

#### Paved Roads at Industrial Site

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

Maximum Annual Asphalt Production = 1,068,000 ton/yr

Percent Asphalt CementBinder (weight %) = 5%

Maximum Material Handling Throughput = 2,732,700 ton/yr

Maximum Asphalt CementBinder Throughput = 100,000 ton/yr

Maximum No. 2 Fuel Oil Usage = 70,000 gal/yr

#### Controlled PTE (tons/yr)

\[\text{Controlled PTE (tons/yr)} = (\text{Mitigated PTE (tons/yr)}) \times (1 - \text{Dust Control Efficiency})\]

#### Mitigated PTE (tons/yr)

\[\text{Mitigated PTE (tons/yr)} = (\text{Maximum one-way miles (miles/yr)}) \times (\text{Mitigated Emission Factor (lb/mile)}) \times (\text{ton/2000 lbs})\]

#### Unmitigated PTE (tons/yr)

\[\text{Unmitigated PTE (tons/yr)} = (\text{Maximum one-way miles (miles/yr)}) \times (\text{Unmitigated Emission Factor (lb/mile)}) \times (\text{ton/2000 lbs})\]

#### Total Emission Factor

\[\text{E}_{\text{ext}} = \text{E} \times \left[1 - \left(\frac{p}{4N}\right)\right]\]

\[\text{p} = \text{Days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)}\]

\[\text{N} = \text{Average Vehicle Weight per Trip (ton/trip)}\]

\[\text{k} = \left(\frac{\text{PM}}{\text{PM10}}\right)^0 \times \left(\frac{\text{PM2.5}}{\text{PM}}\right)^{0.91} \times (\text{W})^{1.02}\]

\[\text{PM10} = \text{Particulate Matter (<10 um)}\]

\[\text{PM2.5} = \text{Particulate Matter (<2.5 um)}\]

#### Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (ton/yr)] \times [1 - Percent Asphalt CementBinder (weight %)]

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (ton/yr)] \times [Percent Asphalt CementBinder (weight %)]

Maximum Weight of Vehicle and Load (ton/trip) = [Maximum Weight of Vehicle (ton/trip)] + [Maximum Weight of Load (ton/trip)]

Maximum trips per year (trip/yr) = [Maximum Weight of Load (ton/trip)] / [Average Weight of Load per Trip (ton/yr)]

Maximum one-way distance (miles) = [Maximum one-way distance (ft/trip)] / 5280

Average Vehicle Weight (ton/yr) = [Total Weight driven per year (ton/yr)] / [Maximum trips per year (trip/yr)]

Average Miles Per Trip (miles/trip) = [Maximum one-way miles (miles/yr)] / [Maximum trips per year (trip/yr)]

Average Vehicle Weight Per Trip (ton/trip) = [Total Weight driven per year (ton/yr)] / [Maximum trips per year (trip/yr)]

Average Vehicle Weight Per Trip (ton/trip) = [Maximum Weight of Vehicle and Load (ton/trip)] / [Maximum trips per year (trip/yr)]

Average Vehicle Weight Per Trip (ton/trip) = [Maximum Weight of Load (ton/trip)] / [Maximum trips per year (trip/yr)]

#### Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit
## Appendix A.1: Unlimited Emissions Calculations

**Cold Mix Asphalt Production and Stockpiles**

### Company Name:
Harding Materials

### Source Address:
5145 East 96th St., Indianapolis, 46240

### SPR No:
097-41822-00082

### Reviewer:
Mehul Sura

### Maximum Annual Asphalt Production = 0 tons/yr

### Percent Asphalt Cement/Binder (weight %) = 5.0%

### Maximum Asphalt Cement/Binder Throughput = 0 tons/yr

### Volatile Organic Compounds

<table>
<thead>
<tr>
<th>Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)</th>
<th>Weight % of VOC solvent in binder*</th>
<th>Maximum Weight % of VOC Solvent in binder that evaporates</th>
<th>Maximum VOC Solvent Usage (tons/yr)</th>
<th>PTE of VOC (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.3%</td>
<td>95.0%</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cut back asphalt medium cure (assuming kerosene solvent)</th>
<th>Weight % of VOC solvent in binder*</th>
<th>Maximum Weight % of VOC Solvent in binder that evaporates</th>
<th>Maximum VOC Solvent Usage (tons/yr)</th>
<th>PTE of VOC (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28.6%</td>
<td>70.0%</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cut back asphalt slow cure (assuming fuel oil solvent)</th>
<th>Weight % of VOC solvent in binder*</th>
<th>Maximum Weight % of VOC Solvent in binder that evaporates</th>
<th>Maximum VOC Solvent Usage (tons/yr)</th>
<th>PTE of VOC (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.0%</td>
<td>25.0%</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)</th>
<th>Weight % of VOC solvent in binder*</th>
<th>Maximum Weight % of VOC Solvent in binder that evaporates</th>
<th>Maximum VOC Solvent Usage (tons/yr)</th>
<th>PTE of VOC (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.0%</td>
<td>46.4%</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other asphalt with solvent binder</th>
<th>Weight % of VOC solvent in binder*</th>
<th>Maximum Weight % of VOC Solvent in binder that evaporates</th>
<th>Maximum VOC Solvent Usage (tons/yr)</th>
<th>PTE of VOC (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.9%</td>
<td>2.5%</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>

**Worst Case PTE of VOC = 0.0**

### Hazardous Air Pollutants

<table>
<thead>
<tr>
<th>Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Volat ole Organic HAP</strong></td>
</tr>
<tr>
<td>1,3-Butadiene</td>
</tr>
<tr>
<td>2,2,4-Trimethylpentane</td>
</tr>
<tr>
<td>Acenaphthene</td>
</tr>
<tr>
<td>Acenaphthylene</td>
</tr>
<tr>
<td>Anthracene</td>
</tr>
<tr>
<td>Benzene</td>
</tr>
<tr>
<td>Benzo(a)anthracene</td>
</tr>
<tr>
<td>Benzo(a)pyrene</td>
</tr>
<tr>
<td>Benzo(b)perylene</td>
</tr>
<tr>
<td>Biphenyl</td>
</tr>
<tr>
<td>Chrysene</td>
</tr>
<tr>
<td>Ethylbenzene</td>
</tr>
<tr>
<td>Fluoranthene</td>
</tr>
<tr>
<td>Fluorene</td>
</tr>
<tr>
<td>Indeno(1,2,3-cd)pyrene</td>
</tr>
<tr>
<td>Methyl-tert-butylether</td>
</tr>
<tr>
<td>Naphthalene</td>
</tr>
<tr>
<td>n-Hexane</td>
</tr>
<tr>
<td>Phenanthrene</td>
</tr>
<tr>
<td>Pyrene</td>
</tr>
<tr>
<td>Toluene</td>
</tr>
<tr>
<td>Total Xylenes</td>
</tr>
<tr>
<td><strong>Total Organic HAPs</strong></td>
</tr>
<tr>
<td><strong>Worst Single HAP</strong></td>
</tr>
</tbody>
</table>

**Xylenes**

**Naphthalene**

**Total Organic HAPs**

**Worst Single HAP**

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

---

**Methodology**

Maximum Asphalt Cement/Binder Throughput = \[\text{Annual Asphalt Production Limitation (tons/yr)} \times \text{Percent Asphalt Cement/Binder (weight %)}\] * [Maximum Weight % of VOC Solvent in Binder]

PTE of VOC (tons/yr) = \[\text{Maximum Weight % of VOC Solvent in binder that evaporates} \times \text{Maximum Weight % of VOC Solvent Usage (tons/yr)}\] * [Maximum Weight % of VOC Solvent in Binder]

PTE of Single HAP (tons/yr) = \[\text{Worst Case Limited PTE of VOC (tons/yr)}\] * [Worst Case Limited PTE of VOC (tons/yr)]

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

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

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

Gasoline Throughput = 0 gallons/day
= 0.0 kgal/yr

Volatile Organic Compounds

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

Hazardous Air Pollutants

<table>
<thead>
<tr>
<th></th>
<th>Worst Case Total HAP Content of VOC solvent (weight %)* = 26.08%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Worst Case Single HAP Content of VOC solvent (weight %)* = 9.0%</td>
</tr>
<tr>
<td>Limited PTE of Total HAPs (tons/yr) = 0.00</td>
<td></td>
</tr>
<tr>
<td>Limited PTE of Single HAP (tons/yr) = 0.00 Xylenes</td>
<td></td>
</tr>
</tbody>
</table>

Methodology

The gasoline throughput was provided by the source.

\[
\text{Gasoline Throughput (kgal/yr)} = \left[\text{Gasoline Throughput (lbs/day)} \times \frac{\text{365 days/yr}}{\text{1000 lbs}} \right] \times \left[\text{kgal/1000 gal} \right] \\
\text{PTE of VOC (tons/yr)} = \left[\text{Gasoline Throughput (kgal/yr)} \times \left(\text{Emission Factor (lb/kgal)} \times \frac{\text{ton/2000 lb}}{\text{kgal}}\right)\right] \\
\text{PTE of Total HAPs (tons/yr)} = \left(\text{Worst Case Total HAP Content of VOC solvent (weight %)} \times \left[\text{PTE of VOC (tons/yr)}\right]\right) \\
\text{PTE of Single HAP (tons/yr)} = \left(\text{Worst Case Single HAP Content of VOC solvent (weight %)} \times \left[\text{PTE of VOC (tons/yr)}\right]\right)
\]


Abbreviations

VOC = Volatile Organic Compounds
PTE = Potential to Emit
Appendix A.2: Limited Emissions Summary

Entire Source - Batch Mix

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41922-00082
Reviewer: Mehul Sura

Asphalt Plant Limitations - Batch Mix

<table>
<thead>
<tr>
<th>Process Description</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Worst Case HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ducted Emissions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dryer Fuel Combustion (worst case)</td>
<td>0.98</td>
<td>3.94</td>
<td>3.94</td>
<td>0.31</td>
<td>98.38</td>
<td>2.85</td>
<td>43.49</td>
<td>0.98</td>
<td>0.93 (hydrogen chloride)</td>
</tr>
<tr>
<td>Dryer/Mixer and Batch Tower (Process)</td>
<td>200.40</td>
<td>85.16</td>
<td>94.96</td>
<td>19.90</td>
<td>27.00</td>
<td>8.10</td>
<td>90.00</td>
<td>1.75</td>
<td>0.61 (formaldehyde)</td>
</tr>
<tr>
<td>Hot Oil Heater Fuel Combustion/Process (worst case)</td>
<td>0.01</td>
<td>0.05</td>
<td>0.05</td>
<td>0.00</td>
<td>0.62</td>
<td>0.03</td>
<td>0.52</td>
<td>0.01</td>
<td>0.011 (hexane)</td>
</tr>
<tr>
<td>Diesel Fired Generator &lt; 600 HP</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00 (formaldehyde)</td>
</tr>
<tr>
<td>Diesel Fired Generator &gt; 600 HP</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00 (benzene)</td>
</tr>
<tr>
<td>Worst Case Emissions</td>
<td>200.41</td>
<td>85.20</td>
<td>94.96</td>
<td>19.90</td>
<td>27.00</td>
<td>8.10</td>
<td>90.52</td>
<td>1.76</td>
<td>0.93 (hydrogen chloride)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fugitive Emissions</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Worst Case HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Load-Out, Site Filling, On-Site Yard</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00 (formaldehyde)</td>
</tr>
<tr>
<td>Material Storage Piles</td>
<td>1.30</td>
<td>0.45</td>
<td>0.45</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00 (benzene)</td>
</tr>
<tr>
<td>Material Processing and Handling</td>
<td>1.46</td>
<td>0.69</td>
<td>0.10</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00 (benzene)</td>
</tr>
<tr>
<td>Material Crushing, Screening, and Conveying</td>
<td>7.14</td>
<td>2.91</td>
<td>2.91</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00 (benzene)</td>
</tr>
<tr>
<td>Unpaved and Paved Roads (worst case)</td>
<td>38.44</td>
<td>9.80</td>
<td>9.80</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00 (benzene)</td>
</tr>
<tr>
<td>Concrete Production and Handling</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00 (benzene)</td>
</tr>
<tr>
<td>Volatile Organic Liquid Storage Vessels</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00 (benzene)</td>
</tr>
<tr>
<td>Totals Fugitive Emissions</td>
<td>46.59</td>
<td>13.30</td>
<td>13.30</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00 (benzene)</td>
</tr>
<tr>
<td>Totals Limited/Controlled Emissions</td>
<td>248.95</td>
<td>95.55</td>
<td>95.55</td>
<td>19.90</td>
<td>27.00</td>
<td>8.13</td>
<td>91.17</td>
<td>2.01</td>
<td>0.93 (xylenes)</td>
</tr>
</tbody>
</table>

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

*Worst Case Emissions (tons/year) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Worst Case Emissions from Hot Oil Heater Fuel Combustion and Hot Oil Heating System + Diesel-Fired Generator < 600 HP + Diesel-Fired Generator > 600 HP
Fuel component percentages provided by the source.
Appendix A.2: Limited Emissions Summary

Drier/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/hr

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

### Fuel Limitations

Maximum Fuel Input Rate = 100 MMBtu/hr
Natural Gas Limitation = 1.00 MMBtu/hr
No. 2 Fuel Oil Limitation = 0 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
Propylene Limitation = 0 gal/yr, and
Butane Limitation = 0 gal/yr, and
Used/Waste Oil Limitation = 0 gal/yr, and

### Emission Factor (lbs/MMCF)

| Criteria Pollutant | Natural Gas (lbs/MMCF) | No. 2 Fuel Oil (lbs/MMCF) | No. 4 Fuel Oil (lbs/MMCF) | Propane (lbs/MMCF) | Butane (lbs/MMCF) | Used/Waste Oil (lbs/MMCF) | Natural Gas (tons/yr) | No. 2 Fuel Oil (tons/yr) | No. 4 Fuel Oil (tons/yr) | Propane (tons/yr) | Butane (tons/yr) | Used/Waste Oil (tons/yr) | Worse Case Fuel Oil (tons/yr) |
|--------------------|------------------------|---------------------------|---------------------------|-------------------|-----------------|---------------------|--------------------------|----------------------|------------------------|------------------------|----------------|----------------|------------------------|--------------------------|
| PM                 | 0.5                    | 0.5                       | 0.5                       | 0.5               | 0.5             | 0.5                  | 0.00                     | 0.00                 | 0.00                   | 0.00                   | 0.00           | 0.00          | 0.00                   | 0.00                     |
| SO2                | 0.0                    | 0.0                       | 0.0                       | 0.0               | 0.0             | 0.0                  | 0.00                     | 0.00                 | 0.00                   | 0.00                   | 0.00           | 0.00          | 0.00                   | 0.00                     |
| NOx                | 1.0                    | 1.0                       | 1.0                       | 1.0               | 1.0             | 1.0                  | 0.00                     | 0.00                 | 0.00                   | 0.00                   | 0.00           | 0.00          | 0.00                   | 0.00                     |
| CO                 | 0.0                    | 0.0                       | 0.0                       | 0.0               | 0.0             | 0.0                  | 0.00                     | 0.00                 | 0.00                   | 0.00                   | 0.00           | 0.00          | 0.00                   | 0.00                     |
| Hazardous Air Pollutant |                     |                            |                            |                   |                 |                      |                           |                      |                        |                        |                |              |                        |                             |
| Arsenic            | 1.00                   | 1.00                      | 1.00                      | 1.00              | 1.00            | 1.00                 | 1.00                     | 1.00                 | 1.00                   | 1.00                   | 1.00           | 1.00          | 1.00                   | 1.00                     |
| Benzene            | 0.0                    | 0.0                       | 0.0                       | 0.0               | 0.0             | 0.0                  | 0.00                     | 0.00                 | 0.00                   | 0.00                   | 0.00           | 0.00          | 0.00                   | 0.00                     |
| Lead               | 1.00                   | 1.00                      | 1.00                      | 1.00              | 1.00            | 1.00                 | 1.00                     | 1.00                 | 1.00                   | 1.00                   | 1.00           | 1.00          | 1.00                   | 1.00                     |
| Nickel             | 0.0                    | 0.0                       | 0.0                       | 0.0               | 0.0             | 0.0                  | 0.00                     | 0.00                 | 0.00                   | 0.00                   | 0.00           | 0.00          | 0.00                   | 0.00                     |
| Polycyclic Organic Matter | 9.50                  |                            |                            |                   |                 |                      |                           |                      |                        |                        |                |              | 9.50                   |                             |
| Xylenes            | 0.0                    | 0.0                       | 0.0                       | 0.0               | 0.0             | 0.0                  | 0.00                     | 0.00                 | 0.00                   | 0.00                   | 0.00           | 0.00          | 0.00                   | 0.00                     |

### Methodology

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/year) * Emission Factor (lbs/MMCF)) / 1000 lbs

All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lbs/kgal)) / 10000 lbs

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas: AP-42 Chapter 1.1 (dated 7/96), Tables 1.1-1, 1.1-2, 1.1-3, and 1.1-4

No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.5 (dated 5/10), Tables 1.5-1, 1.5-2, 1.5-3, 1.5-4, 1.5-5, 1.5-6, 1.5-7, and 1.5-8

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

HAP = Hazardous Air Pollutant

PM = Particulate Matter

CO = Carbon Monoxide

HCl = Hydrogen Chloride

PAH = Polyaromatic Hydrocarbon

*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.
Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO2e) Emissions from the Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

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

**Fuel Limitations**

- Maximum Fuel Input Rate = 100 MMBtu/hr
- Natural Gas Limitation = 1,036 MMCF/yr
- No. 2 Fuel Oil Limitation = 0 gal/yr, and 0.50% sulfur
- No. 4 Fuel Oil Limitation = 0 gal/yr, and 0.50% sulfur
- Residual (No. 5 or No. 6) Fuel Oil Limitation = 0 gal/yr, and 0.50% sulfur
- Propane Limitation = 0 gal/yr, and 0.20% sulfur
- Butane Limitation = 0 gal/yr, and 0.22% sulfur
- Used/Waste Oil Limitation = 0 gal/yr, and 1.00% sulfur, 0.50% ash, 0.20% chlorine, 0.01% lead

**Limited Emissions**

<table>
<thead>
<tr>
<th>Source</th>
<th>CO2e Fraction</th>
<th>NOx</th>
<th>CO2e Potential to Emit (tons/yr)</th>
</tr>
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<tbody>
<tr>
<td>Natural Gas</td>
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<td></td>
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</tr>
<tr>
<td>No. 2 Fuel Oil</td>
<td>120,161.84</td>
<td>2.49</td>
<td>62,217.30</td>
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<tr>
<td>No. 4 Fuel Oil</td>
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<td>0.91</td>
<td>2,261.70</td>
</tr>
<tr>
<td>Residual (No. 5 or No. 6) Fuel Oil</td>
<td>24,835.04</td>
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<td>2,261.70</td>
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<tr>
<td>Propane</td>
<td>12,500.00</td>
<td>1.00</td>
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<tr>
<td>Butane</td>
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<td>0.00</td>
<td>0.00</td>
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<td>Used/Waste Oil</td>
<td>14,506.73</td>
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**CO2e Equivalents**

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<th>CO2e Equivalents (tons/yr)</th>
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<td>62,589.03</td>
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<td>62,217.30</td>
</tr>
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<td>No. 4 Fuel Oil</td>
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</tr>
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</tr>
<tr>
<td>Propane</td>
<td>1,250.00</td>
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<td>Butane</td>
<td>0.00</td>
</tr>
<tr>
<td>Used/Waste Oil</td>
<td>1,305.00</td>
</tr>
</tbody>
</table>

**Methodology**

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

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

Sources of Emission Factors for fuel combustion:

- 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.
- No. 2, No. 4, and Residual (No. 5 or No. 6) Fuel: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/gal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 5/10), Table 1-3.
- 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/gal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1-5.
- 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/gal.

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

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.

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

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

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

All Other Fuels: EF (lb/MMCF) = (EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF))

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

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

**CO2e for Worst Case Fuel**

<table>
<thead>
<tr>
<th>Source</th>
<th>CO2e Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas</td>
<td>62,589.03</td>
</tr>
</tbody>
</table>

**Abbreviations**

CH4 = Methane
CO2 = Carbon Dioxide
N2O = Nitrogen Dioxide
PTE = Potential to Emit
The following calculations determine the limited emissions from the aggregate drying/mixing and the batch tower.

Maximum Hourly Asphalt Production = 350 ton/hr
Annual Asphalt Production Limitation = 450,000 ton/yr
PM Dryer/Mixer Limitation = 0.891 lb/ton of asphalt production
PM10 Dryer/Mixer Limitation = 0.420 lb/ton of asphalt production
CO Dryer/Mixer Limitation = 0.400 lb/ton of asphalt production
VOC Dryer/Mixer Limitation = 0.036 lb/ton of asphalt production

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Worse Case PTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batch-Mix Plant (dryer, hot screens, and mixer)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>0.891</td>
<td>0.891</td>
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<td>0.378</td>
<td>0.378</td>
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<td>85.2</td>
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<td>PM2.5</td>
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<td>0.400</td>
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<td>90.0</td>
<td>90.0</td>
<td>90.0</td>
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</table>

Hazardous Air Pollutant

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Worse Case PTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>4.60E-07</td>
<td>4.60E-07</td>
<td>4.60E-07</td>
<td>1.04E-04</td>
<td>1.04E-04</td>
<td>1.04E-04</td>
<td>1.04E-04</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.50E-07</td>
<td>1.50E-07</td>
<td>1.50E-07</td>
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<td>3.38E-05</td>
<td>3.38E-05</td>
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</tr>
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<td>1.10E-04</td>
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<td>0.23</td>
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</tbody>
</table>

Methodology

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

Abbreviations

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

Hazardous Air Pollutant

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Waste Oil</th>
<th>Worse Case PTE</th>
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<tr>
<td>Arsenic</td>
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<td>Toluene</td>
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<td>1.00E-03</td>
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<td>0.23</td>
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<tr>
<td>Total PAH Haps</td>
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<td>2.30E-04</td>
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<td>0.02</td>
<td>0.05</td>
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</tr>
<tr>
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</tbody>
</table>
The following calculations determine the limited emissions from the aggregate drying/mixing process:

### Greenhouse Gas (CO2e) Emissions from the Batch-Mix Plant (Dryer/Mixer) Process Emissions

- **Company Name:** Harding Materials
- **Source Address:** 5145 East 96th St., Indianapolis, 46240
- **SPR No:** 097-41822-00082
- **Reviewer:** Mehul Sura

**Maximum Hourly Asphalt Production = 350 ton/hr**

**Annual Asphalt Production Limitation = 450,000 ton/yr**

**Criteria Pollutants**

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>CO2 (tons/yr)</th>
<th>CH4 (tons/yr)</th>
<th>N2O (tons/yr)</th>
<th>Total (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas</td>
<td>37</td>
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<td>298</td>
<td>37</td>
</tr>
<tr>
<td>No. 2 Fuel Oil</td>
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<tr>
<td>Waste Oil</td>
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<td></td>
<td>8,366.63</td>
</tr>
</tbody>
</table>

**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 (25) + N2O Potential Emission of "worst case" fuel (ton/yr) x N2O GWP (298).

**Abbreviations**

- CO2 = Carbon Dioxide
- CH4 = Methane
- N2O = Nitrogen Dioxide
- PTE = Potential to Emit
Appendix A.2: Limited Emissions Summary
Dryer/Mixer Slag Processing

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

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

<table>
<thead>
<tr>
<th>Type of Slag</th>
<th>SO2 Emission Factor (lb/ton)</th>
<th>Limited Potential to Emit SO2 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blast Furnace Slag*</td>
<td>0.0000</td>
<td>0.0</td>
</tr>
<tr>
<td>Steel Slag**</td>
<td>0.0000</td>
<td>0.00</td>
</tr>
</tbody>
</table>

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

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

Abbreviations
SO2 = Sulfur Dioxide
Appendix A.2: Limited Emissions Summary

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

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

Maximum Hot Oil Heater Fuel Input Rate = 1.42 MMBtu/hr
Natural Gas Usage = 12.44 MMCF/yr
No. 2 Fuel Oil Usage = 0 gal/yr, and 0.50 % sulfur

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Emission Factor (units)</th>
<th>Unlimited/Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hot Oil Heater</td>
<td>Hot Oil Heater</td>
</tr>
<tr>
<td>Natural Gas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel Oil (lb/MMCF)</td>
<td>1.9</td>
<td>0.012 0.000 0.01</td>
</tr>
<tr>
<td>No. 2 Fuel Oil (lb/kgal)</td>
<td>2.0</td>
<td>0.047 0.000 0.05</td>
</tr>
<tr>
<td>SO2</td>
<td></td>
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<tr>
<td>Fuel Oil (tons/yr)</td>
<td>0.8</td>
<td>0.004 0.000 0.00</td>
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<tr>
<td>Nox</td>
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<td></td>
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<tr>
<td>Fuel Oil (tons/yr)</td>
<td>100</td>
<td>0.622 0.000 0.62</td>
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<tr>
<td>VOC</td>
<td></td>
<td></td>
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<tr>
<td>Fuel Oil (tons/yr)</td>
<td>5.5</td>
<td>0.034 0.000 0.03</td>
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<tr>
<td>CO</td>
<td></td>
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<tr>
<td>Fuel Oil (tons/yr)</td>
<td>84</td>
<td>0.522 0.000 0.52</td>
</tr>
</tbody>
</table>

Hazardous Air Pollutant

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Emission Factor (units)</th>
<th>Unlimited/Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>2.0E-04 5.6E-04</td>
<td>1.2E-06 0.00E+00 1.2E-06</td>
</tr>
<tr>
<td>Beryllium</td>
<td>1.2E-05 4.2E-04</td>
<td>7.5E-06 0.00E+00 7.5E-06</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.1E-03 4.2E-04</td>
<td>6.8E-06 0.00E+00 6.8E-06</td>
</tr>
<tr>
<td>Chromium</td>
<td>1.4E-03 4.2E-04</td>
<td>8.7E-06 0.00E+00 8.7E-06</td>
</tr>
<tr>
<td>Cobalt</td>
<td>8.4E-05 5.2E-07</td>
<td>5.2E-07</td>
</tr>
<tr>
<td>Lead</td>
<td>5.0E-04 1.3E-03</td>
<td>3.1E-06 0.00E+00 3.1E-06</td>
</tr>
<tr>
<td>Manganese</td>
<td>3.8E-04 8.4E-04</td>
<td>2.4E-06 0.00E+00 2.4E-06</td>
</tr>
<tr>
<td>Mercury</td>
<td>2.6E-04 4.2E-04</td>
<td>1.6E-06 0.00E+00 1.6E-06</td>
</tr>
<tr>
<td>Nickel</td>
<td>2.1E-03 4.2E-04</td>
<td>1.3E-05 0.00E+00 1.3E-05</td>
</tr>
<tr>
<td>Selenium</td>
<td>2.4E-05 2.1E-03</td>
<td>1.5E-07 0.00E+00 1.5E-07</td>
</tr>
<tr>
<td>Benzene</td>
<td>2.1E-03 1.3E-05</td>
<td>1.3E-05</td>
</tr>
<tr>
<td>Dichlorobenzene</td>
<td>1.2E-03 7.5E-06</td>
<td>7.5E-06</td>
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<td>Ethylbenzene</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>7.5E-02 6.10E-02</td>
<td>4.7E-04 0.00E+00 0.00</td>
</tr>
<tr>
<td>Hexane</td>
<td>1.8E+00 0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Phenol</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Toluene</td>
<td>3.4E-03 2.1E-05</td>
<td>2.1E-05</td>
</tr>
<tr>
<td>Total PAH Haps</td>
<td>negl</td>
<td>negl</td>
</tr>
<tr>
<td>Total HAPs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.2E-02 0.0E+00 0.012</td>
<td></td>
</tr>
</tbody>
</table>

Methodology

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]

Sources of AP-42 Emission Factors for fuel combustion:

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

Abbreviations
PM = Particulate Matter
CO = Carbon Monoxide
PM10 = Particulate Matter (<10 um)
HAP = Hazardous Air Pollutant
PM2.5 = Particulate Matter (<2.5 um)
HCl = Hydrogen Chloride
SO2 = Sulfur Dioxide
PAH = Polyaromatic Hydrocarbon
NOx = Nitrous Oxides
VOC = Volatile Organic Compounds
Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO2e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

Maximum Hot Oil Heater Fuel Input Rate = 1.42 MMBtu/hr
Natural Gas Usage = 12.44 MMCF/yr
No. 2 Fuel Oil Usage = 0.00 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Emission Factor (units)</th>
<th>Unlimited/Uncontrolled Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Natural Gas (lb/MMCF)</td>
<td>No. 2 Fuel Oil (lb/kgal)</td>
</tr>
<tr>
<td>CO2</td>
<td>120,161.84</td>
<td>22,501.41</td>
</tr>
<tr>
<td>CH4</td>
<td>2.49</td>
<td>0.91</td>
</tr>
<tr>
<td>N2O</td>
<td>2.20</td>
<td>0.26</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CO2e Equivalent Emissions (tons/yr) 751.82 0.00

Methodology
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mMbtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2
No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mMbtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 5/10), Table 1.3-8

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

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MCF/1,000 MMBtu]
Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]

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

Abbreviations
CH4 = Methane
N2O = Nitrogen Dioxide
CO2 = Carbon Dioxide
PTE = Potential to Emit
## Appendix A.2: Limited Emissions Summary
### Hot Oil Heating System - Process Emissions

**Company Name:** Harding Materials  
**Source Address:** 5145 East 96th St., Indianapolis, 46240  
**SPR No.:** 097-41822-00082  
**Reviewer:** Mehul Sura

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

- **Maximum Fuel Input Rate To Hot Oil Heater:** 1.42 MMBtu/hr  
- **Natural Gas Usage:** 12.44 MMCF/yr, and  
- **No. 2 Fuel Oil Usage:** 0.00 gal/yr

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Natural Gas (lb/ft³)</th>
<th>No. 2 Fuel Oil (lb/gal)</th>
<th>Natural Gas</th>
<th>No. 2 Fuel Oil</th>
<th>Worse Case</th>
<th>PTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC</td>
<td>2.60E-08</td>
<td>2.65E-05</td>
<td>1.62E-04</td>
<td>0.00</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>8.90E-06</td>
<td>0.0012</td>
<td>0.055</td>
<td>0.00</td>
<td>0.055</td>
<td></td>
</tr>
<tr>
<td>Greenhouse Gas as CO2e*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CO2</td>
<td>0.20</td>
<td>28.00</td>
<td>1243.92</td>
<td>0.00</td>
<td>1243.92</td>
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<tr>
<td>Hazardous Air Pollutant</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>2.60E-08</td>
<td>3.50E-06</td>
<td>1.62E-04</td>
<td>0.00E+00</td>
<td>1.62E-04</td>
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</tr>
<tr>
<td>Acenaphthene</td>
<td>5.30E-07</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acenaphthylene</td>
<td>2.00E-07</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
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<tr>
<td>Anthracene</td>
<td>1.80E-07</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
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<td></td>
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<tr>
<td>Benzo(b)fluoranthene</td>
<td>1.00E-07</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
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<tr>
<td>Fluoranthene</td>
<td>4.40E-08</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
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</tr>
<tr>
<td>Fluorene</td>
<td>3.20E-08</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naphthalene</td>
<td>1.70E-05</td>
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<td>0.00E+00</td>
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<td>Phenanthrene</td>
<td>4.90E-06</td>
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</tr>
<tr>
<td>Pyrene</td>
<td>3.20E-08</td>
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<td>0.00E+00</td>
<td>0.00E+00</td>
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</tbody>
</table>

**Total HAPs:** 1.62E-04  
**Worst Single HAP:** 1.62E-04 (Naphthalene)

**Methodology**

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

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Table 11.1-13

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

**Abbreviations**

CO = Carbon Monoxide  
VOC = Volatile Organic Compound  
CO2 = Carbon Dioxide
Appendix A.2: Limited Emissions Summary

Reciprocating Internal Combustion Engines - Diesel Fuel

Output Rating (<600 HP)

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
Permit Number: F097-37596-00082
Reviewer: Adam Wheat/Nathan Bell

<table>
<thead>
<tr>
<th>Output Horsepower Rating (hp)</th>
<th>0.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited Hours Operated per Year</td>
<td>0</td>
</tr>
<tr>
<td>Limited Throughput (hp-hr/yr)</td>
<td>0</td>
</tr>
<tr>
<td>Limited Diesel Fuel Usage (gal/yr)</td>
<td>0</td>
</tr>
</tbody>
</table>

### Pollutant Emissions

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM²</th>
<th>PM10²</th>
<th>direct PM2.5²</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
<td>0.0022</td>
<td>0.0022</td>
<td>0.0022</td>
<td>0.0021</td>
<td>0.0310</td>
<td>0.0025</td>
<td>0.0067</td>
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<tr>
<td>Emission Factor in lb/kg/yr</td>
<td>43.07</td>
<td>43.07</td>
<td>43.07</td>
<td>40.13</td>
<td>606.85</td>
<td>49.22</td>
<td>130.77</td>
</tr>
<tr>
<td>Limited Emission in tons/yr</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

1 Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10^6 (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

### Hazardous Air Pollutants (HAPs)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Xylene</th>
<th>1,3-Butadiene</th>
<th>Formaldehyde</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
<th>Total PAH HAPs²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/kgal</td>
<td>1.28E-01</td>
<td>5.60E-02</td>
<td>3.91E-02</td>
<td>5.36E-03</td>
<td>1.62E-01</td>
<td>1.05E-01</td>
<td>1.27E-02</td>
<td>2.30E-02</td>
</tr>
<tr>
<td>Limited Emission in tons/yr</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
</tbody>
</table>

1 PAH = Polycyclic aromatic hydrocarbons (PAHs are considered HAPs, since they are considered Polyaromatic Organic Matter)

### Green House Gas Emissions (GHG)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>CO²</th>
<th>CH4⁴</th>
<th>N2O⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
<td>1.15</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Emission Factor in kg/MMBtu</td>
<td>NA</td>
<td>0.003</td>
<td>0.0006</td>
</tr>
<tr>
<td>Emission Factor in lb/kgal</td>
<td>22.51207</td>
<td>0.91</td>
<td>0.18</td>
</tr>
<tr>
<td>Limited Emission in tons/yr</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

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

2 Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10^6 (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

3 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.

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

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

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

6 Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 1/10^6 (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

### Methodology

Limited Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Limited Hours Operated per Year]
Limited Diesel Fuel Usage (gal/yr) = Limited Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/193300 (lb/Btu) * 1/7.1 (gal/lb)
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2 and have been converted to lb/kgal
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C, Table C-2 and have been converted to lb/kgal
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Limited Emissions (tons/yr) = [Limited Diesel Fuel Usage (gal/yr)] * Emission Factor (lb/kgal) / (1,000 gal/ton) / (2,000 lb/ton)
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

### Summed Limited Emissions in tons/yr

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>0.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2e Total in tons/yr</td>
<td>0.00</td>
</tr>
</tbody>
</table>
### Limited Emissions Summary

#### Large Reciprocating Internal Combustion Engines - Diesel Fuel

**Output Rating (>600 HP)**

**Company Name:** Harding Materials  
**Source Address:** 5145 East 96th St., Indianapolis, 46240  
**Permit Number:** F097-37596-00082  
**Reviewer:** Adam Wheat/Nathan Bell

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/hp-hr</th>
<th>Emission Factor in lb/MMBtu</th>
<th>Emission Factor in lb/kgal</th>
<th>Limited Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>7.00E-04</td>
<td>0.0573</td>
<td>13.70</td>
<td>0.00</td>
</tr>
<tr>
<td>PM10</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>direct PM2.5</td>
<td>4.05E-03</td>
<td>0.0573</td>
<td>7.85</td>
<td>0.00</td>
</tr>
<tr>
<td>PM2.5</td>
<td>0.0573</td>
<td>0.0573</td>
<td>7.85</td>
<td>0.00</td>
</tr>
<tr>
<td>SO2</td>
<td>2.40E-02</td>
<td>7.05E-04</td>
<td>79.18</td>
<td>13.80</td>
</tr>
<tr>
<td>NOx</td>
<td>7.05E-04</td>
<td>5.50E-03</td>
<td>469.82</td>
<td>107.67</td>
</tr>
<tr>
<td>VOC</td>
<td>5.50E-03</td>
<td>7.05E-04</td>
<td>13.80</td>
<td>107.67</td>
</tr>
<tr>
<td>CO</td>
<td>5.50E-03</td>
<td>7.05E-04</td>
<td>107.67</td>
<td>0.00</td>
</tr>
</tbody>
</table>

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

2. Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10^6 (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

#### Hazardous Air Pollutants (HAPs)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMBtu</th>
<th>Emission Factor in lb/kgal</th>
<th>Limited Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>7.86E-04</td>
<td>1.06E-01</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Toluene</td>
<td>2.81E-04</td>
<td>2.81E-02</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Xylene</td>
<td>1.93E-04</td>
<td>1.93E-02</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>7.89E-05</td>
<td>1.08E-02</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>2.52E-05</td>
<td>3.45E-02</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Acrolein</td>
<td>7.88E-06</td>
<td>1.08E-02</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>Total PAH HAPs</td>
<td>2.12E-04</td>
<td>2.91E-02</td>
<td>0.00E+00</td>
</tr>
</tbody>
</table>

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

4. Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10^6 (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

#### Green House Gas Emissions (GHG)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/hp-hr</th>
<th>Emission Factor in kg/MMBtu</th>
<th>Emission Factor in lb/kgal</th>
<th>Limited Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2</td>
<td>1.16</td>
<td>NA</td>
<td>NA</td>
<td>0.00</td>
</tr>
<tr>
<td>CH4</td>
<td>6.35E-05</td>
<td>NA</td>
<td>NA</td>
<td>0.00</td>
</tr>
<tr>
<td>N2O</td>
<td>NA</td>
<td>0.00E+00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

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

6. According to AP-42, Table 3.4-1, TOC (as CH4) is 9% methane by weight. As a result, the lb/hp-hr emission factor for TOC (as CH4) in AP-42 has been multiplied by 0.9 to determine the portion that is emitted as methane.

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

7. Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kgg) * 1/10^6 (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kggal)

<table>
<thead>
<tr>
<th></th>
<th>Summed Potential Emissions in tons/yr</th>
<th>CO2e Total in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Methodology**

Limited Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Limited Hours Operated per Year]  
Limited Diesel Fuel Usage (gal/yr) = Limited Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (Btu/lb) * 1/7.1 (lb/gal)  
Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 and have been converted to lb/kgal.  
N2O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal.

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

Limited Emissions (tons/yr) = Limited Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal) / (1,000 ga/kgal) / (2,000 lb/ton) x CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).
Appendix A.2: Limited Emissions Summary
Asphalt Load-Out, Silo Filling, and Yard Emissions

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

Annual Asphalt Production Limitation = 450,000 tons/yr

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Load-Out</th>
<th>Silo Filling</th>
<th>On-Site Yard</th>
<th>Load-Out</th>
<th>Silo Filling</th>
<th>On-Site Yard</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PM*</td>
<td>5.2E-04</td>
<td>5.9E-04</td>
<td>NA</td>
<td>0.12</td>
<td>0.13</td>
<td>NA</td>
<td>0.25</td>
</tr>
<tr>
<td>Organic PM</td>
<td>3.4E-04</td>
<td>2.5E-04</td>
<td>NA</td>
<td>0.08</td>
<td>0.057</td>
<td>NA</td>
<td>0.13</td>
</tr>
<tr>
<td>TOC</td>
<td>0.004</td>
<td>0.012</td>
<td>0.001</td>
<td>0.94</td>
<td>2.74</td>
<td>0.248</td>
<td>3.9</td>
</tr>
<tr>
<td>CO</td>
<td>0.001</td>
<td>0.001</td>
<td>3.5E-04</td>
<td>0.30</td>
<td>0.265</td>
<td>0.079</td>
<td>0.85</td>
</tr>
</tbody>
</table>

| PM/HAPs | 0.005 | 0.007 | 0.012 |
| VOC/HAPs| 0.014 | 0.035 | 0.004 | 0.052 |
| non-VOC/HAPs | 7.2E-05 | 7.4E-06 | 1.9E-05 | 9.9E-05 |
| non-VOC/non-HAPs | 0.07 | 0.04 | 0.02 | 0.12 |

Total VOCs = 0.88 + 2.74 + 0.2 + 3.9 = 6.8 to 7.9 tons/yr
Total HAPs = 0.02 + 0.04 + 0.004 = 0.06 tons/yr
Worst Single HAP = 0.020 (formaldehyde)

Methodology
The asphalt temperature and volatility factor were provided by the source.
Limited Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

| Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14): |
|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Total PM/PM10 Ef | = 0.0000181 + 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            | = 0.00568(-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     | = 0.00486(-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
Organic Particulate-Based Compounds (Table 11.1-15)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>CASRN</th>
<th>Category</th>
<th>HAP Type</th>
<th>Source</th>
<th>Load-out and Onsite Yard (% by weight of Total Organic PM)</th>
<th>Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)</th>
<th>Load-out</th>
<th>Silo Filling</th>
<th>Onsite Yard</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acenaphthene</td>
<td>83-32-9</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.26%</td>
<td>0.47%</td>
<td>2.0E-04</td>
<td>2.7E-04</td>
<td>NA</td>
<td>4.7E-04</td>
</tr>
<tr>
<td>Acenaphthylene</td>
<td>208-96-8</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.026%</td>
<td>0.014%</td>
<td>2.1E-05</td>
<td>8.0E-06</td>
<td>NA</td>
<td>2.9E-05</td>
</tr>
<tr>
<td>Anthracene</td>
<td>120-12-7</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.07%</td>
<td>0.13%</td>
<td>5.4E-05</td>
<td>7.4E-05</td>
<td>NA</td>
<td>1.3E-04</td>
</tr>
<tr>
<td>Benzo(a)anthracene</td>
<td>56-55-3</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.019%</td>
<td>0.056%</td>
<td>1.5E-05</td>
<td>3.2E-05</td>
<td>NA</td>
<td>4.7E-05</td>
</tr>
<tr>
<td>Benzo(b)fluoranthene</td>
<td>205-99-2</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0076%</td>
<td>0</td>
<td>5.8E-06</td>
<td>0</td>
<td>NA</td>
<td>5.8E-06</td>
</tr>
<tr>
<td>Benzo(k)fluoranthene</td>
<td>207-08-9</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0022%</td>
<td>0</td>
<td>1.7E-06</td>
<td>0</td>
<td>NA</td>
<td>1.7E-06</td>
</tr>
<tr>
<td>Benzo(a,h)pyrene</td>
<td>191-24-2</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0019%</td>
<td>0</td>
<td>1.5E-06</td>
<td>0</td>
<td>NA</td>
<td>1.5E-06</td>
</tr>
<tr>
<td>Benzo(a)pyrene</td>
<td>50-32-8</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0023%</td>
<td>0</td>
<td>1.8E-06</td>
<td>0</td>
<td>NA</td>
<td>1.8E-06</td>
</tr>
<tr>
<td>Benzo(e)pyrene</td>
<td>192-97-2</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.0078%</td>
<td>0.0095%</td>
<td>6.0E-06</td>
<td>5.4E-06</td>
<td>NA</td>
<td>1.1E-05</td>
</tr>
<tr>
<td>Chrysene</td>
<td>218-01-9</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.103%</td>
<td>0.21%</td>
<td>7.9E-05</td>
<td>1.2E-04</td>
<td>NA</td>
<td>2.8E-04</td>
</tr>
<tr>
<td>Dibenz(a,h)anthracene</td>
<td>53-70-3</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.00037%</td>
<td>0</td>
<td>2.8E-07</td>
<td>0</td>
<td>NA</td>
<td>2.8E-07</td>
</tr>
<tr>
<td>Fluoranthene</td>
<td>205-44-0</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.05%</td>
<td>0.15%</td>
<td>3.8E-05</td>
<td>8.6E-05</td>
<td>NA</td>
<td>1.2E-04</td>
</tr>
<tr>
<td>Fluorene</td>
<td>86-73-7</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.77%</td>
<td>1.01%</td>
<td>5.9E-04</td>
<td>5.8E-04</td>
<td>NA</td>
<td>1.2E-03</td>
</tr>
<tr>
<td>Indeno(1,2,3-cd)pyrene</td>
<td>193-39-5</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.00047%</td>
<td>0</td>
<td>3.6E-07</td>
<td>0</td>
<td>NA</td>
<td>3.6E-07</td>
</tr>
<tr>
<td>2-Methylnaphthalene</td>
<td>91-57-6</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>2.38%</td>
<td>5.27%</td>
<td>1.8E-03</td>
<td>3.0E-03</td>
<td>NA</td>
<td>5.0E-03</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>1.25%</td>
<td>1.82%</td>
<td>9.6E-04</td>
<td>1.0E-03</td>
<td>NA</td>
<td>2.0E-03</td>
</tr>
<tr>
<td>Perylene</td>
<td>198-55-0</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.022%</td>
<td>0.03%</td>
<td>1.7E-05</td>
<td>1.7E-05</td>
<td>NA</td>
<td>3.4E-05</td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>85-01-8</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.81%</td>
<td>1.80%</td>
<td>6.2E-04</td>
<td>1.0E-03</td>
<td>NA</td>
<td>1.6E-03</td>
</tr>
<tr>
<td>Pyrene</td>
<td>129-00-0</td>
<td>PM/HAP</td>
<td>POM</td>
<td>Organic PM</td>
<td>0.15%</td>
<td>0.44%</td>
<td>1.2E-04</td>
<td>2.5E-04</td>
<td>NA</td>
<td>3.7E-04</td>
</tr>
</tbody>
</table>

Total PAH HAPs: 0.905 0.897 0.891

Other semi-volatile HAPs

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>CASRN</th>
<th>Category</th>
<th>HAP Type</th>
<th>Source</th>
<th>Load-out and Onsite Yard (% by weight of Total Organic PM)</th>
<th>Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)</th>
<th>Load-out</th>
<th>Silo Filling</th>
<th>Onsite Yard</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>PM/HAP</td>
<td>---</td>
<td>Organic PM</td>
<td>1.18%</td>
<td>0</td>
<td>9.1E-04</td>
<td>0</td>
<td>0</td>
<td>9.1E-04</td>
<td>9.1E-04</td>
</tr>
</tbody>
</table>

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

Methodology

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


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)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>CASRN</th>
<th>Category</th>
<th>HAP Type</th>
<th>Speciation Profile</th>
<th>Limited Potential to Emit (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Load-out and Onsite Yard (% by weight of TOC)</td>
<td>Silo Filling and Asphalt Storage Tank (% by weight of TOC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VOC</strong></td>
<td></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>94%</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td><strong>non-VOC/non-HAPS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methane</td>
<td>74-82-8</td>
<td><strong>non-VOC/non-HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>6.50%</strong></td>
</tr>
<tr>
<td>Acetone</td>
<td>67-84-1</td>
<td><strong>non-VOC/non-HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.046%</strong></td>
</tr>
<tr>
<td>Ethylene</td>
<td>74-85-1</td>
<td><strong>non-VOC/non-HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.71%</strong></td>
</tr>
<tr>
<td><strong>Total non-VOC/non-HAPS</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>7.30%</strong></td>
<td><strong>1.40%</strong></td>
</tr>
<tr>
<td><strong>Volatile organic HAPs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.052%</strong></td>
</tr>
<tr>
<td>Bromomethane</td>
<td>74-83-9</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.0096%</strong></td>
</tr>
<tr>
<td>2-Butanone</td>
<td>78-93-3</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.049%</strong></td>
</tr>
<tr>
<td>Carbon Disulfide</td>
<td>75-15-0</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.013%</strong></td>
</tr>
<tr>
<td>Chloroethane</td>
<td>75-00-3</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.00021%</strong></td>
</tr>
<tr>
<td>Chloromethane</td>
<td>74-87-3</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.015%</strong></td>
</tr>
<tr>
<td>Cumene</td>
<td>92-80-8</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.11%</strong></td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.28%</strong></td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>50-00-0</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.088%</strong></td>
</tr>
<tr>
<td>n-Hexane</td>
<td>100-54-3</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.15%</strong></td>
</tr>
<tr>
<td>Isocyanate</td>
<td>540-84-1</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.0018%</strong></td>
</tr>
<tr>
<td>Methylene Chloride</td>
<td>75-09-2</td>
<td><strong>non-VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0</strong></td>
</tr>
<tr>
<td>MTBE</td>
<td>1634-04-4</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0</strong></td>
</tr>
<tr>
<td>Styrene</td>
<td>100-42-5</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.0073%</strong></td>
</tr>
<tr>
<td>Tetrachloroethene</td>
<td>127-18-4</td>
<td><strong>non-VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.0077%</strong></td>
</tr>
<tr>
<td>Toluene</td>
<td>100-88-3</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.021%</strong></td>
</tr>
<tr>
<td>1,1,1-Trichloroethane</td>
<td>71-55-6</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0</strong></td>
</tr>
<tr>
<td>Trichloroethene</td>
<td>79-01-6</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0</strong></td>
</tr>
<tr>
<td>Trichlorofluoromethane</td>
<td>75-69-4</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.0013%</strong></td>
</tr>
<tr>
<td>m,p-Xylene</td>
<td>1330-20-7</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.41%</strong></td>
</tr>
<tr>
<td>4-Xylene</td>
<td>95-47-6</td>
<td><strong>VOC/HAP</strong></td>
<td><strong>---</strong></td>
<td><strong>TOC</strong></td>
<td><strong>0.08%</strong></td>
</tr>
<tr>
<td><strong>Total volatile organic HAPs</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>1.50%</strong></td>
<td><strong>1.30%</strong></td>
</tr>
</tbody>
</table>

### 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: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

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

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

\[
Ef = 1.7 \times \frac{s}{1.5} \times \frac{365-p}{235} \times \frac{f}{15}
\]

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

<table>
<thead>
<tr>
<th>Material</th>
<th>Silt Content (wt %)*</th>
<th>Emission Factor (lb/acre/day)</th>
<th>Maximum Anticipated Pile Size (acres)**</th>
<th>PTE of PM (tons/yr)</th>
<th>PTE of PM10/PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>2.6</td>
<td>3.01</td>
<td>0.50</td>
<td>0.275</td>
<td>0.096</td>
</tr>
<tr>
<td>Limestone</td>
<td>1.6</td>
<td>1.85</td>
<td>0.50</td>
<td>0.169</td>
<td>0.059</td>
</tr>
<tr>
<td>RAP</td>
<td>0.5</td>
<td>0.58</td>
<td>6.50</td>
<td>0.687</td>
<td>0.240</td>
</tr>
<tr>
<td>Gravel</td>
<td>1.6</td>
<td>1.85</td>
<td>0.50</td>
<td>0.169</td>
<td>0.059</td>
</tr>
<tr>
<td>Shingles</td>
<td>0.5</td>
<td>0.58</td>
<td>0.00</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Slag</td>
<td>3.8</td>
<td>4.40</td>
<td>0.00</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>**Totals</td>
<td></td>
<td></td>
<td></td>
<td>1.30</td>
<td>0.45</td>
</tr>
</tbody>
</table>

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

Abbreviations
RAP = recycled asphalt pavement
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PTE = Potential to Emit
Appendix A.2: Limited Emissions Summary

Material Processing, Handling, Crushing, Screening, and Conveying

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

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.

\[
Ef = k \cdot \left( \frac{0.0032}{U/5} \right)^{1.3} \cdot \left( \frac{1}{M/2} \right)^{1.4}
\]

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

\[
Ef\) (PM) = \frac{2.27E^{-3}}{ton}\) PM/ton of material handled
\]

\[
Ef\) (PM10) = \frac{1.07E^{-3}}{ton}\) PM10/ton of material handled
\]

\[
Ef\) (PM2.5) = \frac{1.62E^{-4}}{ton}\) PM2.5/ton of material handled
\]

Annual Asphalt Production Limitation = 450,000 tons/yr
Percent Asphalt Cement/Binder (weight %) = 5.0%
Maximum Material Handling Throughput = 427,500 tons/yr

<table>
<thead>
<tr>
<th>Type of Activity</th>
<th>Limited PTE of PM (tons/yr)</th>
<th>Limited PTE of PM10 (tons/yr)</th>
<th>Limited PTE of PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck unloading of materials into storage piles</td>
<td>0.48</td>
<td>0.23</td>
<td>0.03</td>
</tr>
<tr>
<td>Front-end loader dumping of materials into feeder bins</td>
<td>0.48</td>
<td>0.23</td>
<td>0.03</td>
</tr>
<tr>
<td>Conveyor dropping material into dryer/mixer or batch tower</td>
<td>0.48</td>
<td>0.23</td>
<td>0.03</td>
</tr>
<tr>
<td><strong>Total (tons/yr)</strong></td>
<td><strong>1.45</strong></td>
<td><strong>0.69</strong></td>
<td><strong>0.10</strong></td>
</tr>
</tbody>
</table>

Methodology

The percent asphalt cement/binder provided by the source.

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

Limited Potential to Emit (tons/yr) = \(\text{Maximum Material Handling Throughput (tons/yr)} \cdot \text{Emission Factor (lb/ton)} \cdot \frac{\text{ton}}{2000 \text{ lbs}}\)

Raw materials may include stone/gravel, 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.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Uncontrolled Emission Factor for PM (lbs/ton)*</th>
<th>Uncontrolled Emission Factor for PM10 (lbs/ton)*</th>
<th>Limited PTE of PM (tons/yr)</th>
<th>Limited PTE of PM10/PM2.5 (tons/yr)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crushing</td>
<td>0.0054</td>
<td>0.0024</td>
<td>1.15</td>
<td>0.51</td>
</tr>
<tr>
<td>Screening</td>
<td>0.026</td>
<td>0.0067</td>
<td>5.34</td>
<td>1.86</td>
</tr>
<tr>
<td>Conveying</td>
<td>0.003</td>
<td>0.0011</td>
<td>0.64</td>
<td>0.24</td>
</tr>
</tbody>
</table>

Limited Potential to Emit (tons/yr) = 7.14 2.61

Methodology

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

Limited Potential to Emit (tons/yr) = \(\text{Maximum Material Handling Throughput (tons/yr)} \cdot \text{Emission Factor (lb/ton)} \cdot \frac{\text{ton}}{2000 \text{ lbs}}\)

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
### Unpaved Roads

**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).

**Process**

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>Maximum Weight of Vehicle ( tons)</th>
<th>Maximum Weight of Load ( tons)</th>
<th>Maximum trips per year (trip/yr)</th>
<th>Total Weight driven per year (ton/yr)</th>
<th>Maximum one-way distance (mile/trip)</th>
<th>Maximum one-way miles (mile/yr)</th>
<th>Maximum one-way ton/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triaxle Dump Truck (Full)</td>
<td>26.0</td>
<td>18.0</td>
<td>38.8</td>
<td>25,446</td>
<td>9,262</td>
<td>2,5446</td>
<td>15.0</td>
</tr>
<tr>
<td>Triaxle Dump Truck (Empty)</td>
<td>26.0</td>
<td>0</td>
<td>23.1</td>
<td>16,465</td>
<td>13,907</td>
<td>16,465</td>
<td>0.75</td>
</tr>
<tr>
<td>Front-End Loader (Full)</td>
<td>5.5</td>
<td>0</td>
<td>2.2</td>
<td>19,774</td>
<td>18,514</td>
<td>19,774</td>
<td>9.61</td>
</tr>
<tr>
<td>Front-End Loader (Empty)</td>
<td>5.5</td>
<td>0</td>
<td>19.0</td>
<td>24,725</td>
<td>11,594</td>
<td>24,725</td>
<td>0.45</td>
</tr>
</tbody>
</table>

*Total* | | | | | | | 3.38*10^4 |

**Average Vehicle Weight Per Trip**

- **PM** = 0.485 (tons/trip)
- **PM10** = 24.7 (tons/trip)

**Average Miles Per Trip**

- **PM** = 1.88*10^6 (miles/trip)
- **PM10** = 7.32 (miles/trip)

**Abbreviations**

- PM = Particulate Matter
- PM10 = Particulate Matter (>10 um)
- PM2.5 = Particulate Matter (<2.5 um)
- PM = Particulate Matter

**Unmitigated Emission Factor**

- E* = k0.74*[s/(12)^a]*[(W/3)^b] (Equation 1a from AP-42 13.2.2.2)

**Mitigated Emission Factor**

- Eext = E * [(365 - P)/365] (where P = days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1))

**Methodology**

- Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
- Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
- Maximum Weight of Vehicle and Load (ton/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)]
- 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 (mile/trip) = SUM[Maximum one-way distance (mile/trip)] / SUM[Maximum trips per year (trip/yr)]
- Mitigated PTE (tons/yr) = SUM[Mitigated one-way miles (mile/yr)] / SUM[Maximum one-way miles (mile/yr)]

**Unmitigated PTE of PM**

- Unmitigated PTE of PM = Total * Average Vehicle Weight per Trip * Average Miles Per Trip

**Mitigated PTE of PM**

- Mitigated PTE of PM = Controlled PTE of PM

**Unmitigated PTE of PM10**

- Unmitigated PTE of PM10 = Unmitigated PTE of PM *

**Mitigated PTE of PM2.5**

- Mitigated PTE of PM2.5 = Mitigated PTE of PM * Dust Control Efficiency

**Controlled PTE of PM10**

- Controlled PTE of PM10 = Mitigated PTE of PM (1 - Dust Control Efficiency)

**Controlled PTE of PM2.5**

- Controlled PTE of PM2.5 = Mitigated PTE of PM (1 - Dust Control Efficiency)

**Unmitigated Emission Factor, Ef**

- Ef = k0.74*[s/(12)^a]*[(W/3)^b] (Equation 1a from AP-42 13.2.2.2)

**Mitigated Emission Factor, Eext**

- Eext = E * [(365 - P)/365] (where P = days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1))

**Abbreviations**

- PM = Particulate Matter
- PM10 = Particulate Matter (>10 um)
- PM2.5 = Particulate Matter (<2.5 um)
- PTE = Potential to Emit
### Paved Roads

#### 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).

#### Methodology

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

Maximum Weight of Vehicle and Load = [Maximum Weight of Vehicle (tons)] + [Maximum Weight of Load (tons)]

Maximum one-way distance = Maximum one-way distance (feet/trip) / 5280 ft/mile

Average Vehicle Weight Per Trip = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]

Unmitigated Emission Factor, $EF_{\text{unmitigated}} = k \times (sL)^{0.91} \times W^{1.02}$ (Equation 1 from AP-42 13.2.1)

where $k = \frac{\text{PTE of PM} \times \text{PM2.5}}{\text{PM2.5} \times \text{PM10}}$

$W = \text{tons per average vehicle weight (provided by source)}$

$N = \text{days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)}$

Mitigated Emission Factor, $EF_{\text{mitigated}} = EF_{\text{unmitigated}} \times (1 - \frac{p}{4N})$

where $p = \frac{\text{Total}}{\text{days per year}}$

To control measures outlined in fugitive dust control plan

#### Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (>10 um)

PM2.5 = Particulate Matter (>2.5 um)

PTE = Potential to Emit

#### Table

<table>
<thead>
<tr>
<th>Process</th>
<th>Vehicle Type</th>
<th>Maximum Weight of Vehicle (tons)</th>
<th>Maximum Weight of Load (tons)</th>
<th>Maximum Weight of Vehicle and Load (tons)</th>
<th>Maximum trips per year (trip/yr)</th>
<th>Total Weight driven per year (ton/yr)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (miles/trip)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Cement/Binder Truck Enter Full</td>
<td>Tanker truck (6000 gal)</td>
<td>12.0</td>
<td>32.0</td>
<td>44.00</td>
<td>703</td>
<td>30,618</td>
<td>280</td>
<td>0.053</td>
</tr>
<tr>
<td>Asphalt Cement/Binder Truck Leave Empty</td>
<td>Tanker truck (6000 gal)</td>
<td>12.0</td>
<td>32.0</td>
<td>44.00</td>
<td>703</td>
<td>8,439</td>
<td>280</td>
<td>0.19</td>
</tr>
<tr>
<td>Fuel Oil Truck Enter Full</td>
<td>Tanker truck (6000 gal)</td>
<td>12.0</td>
<td>32.0</td>
<td>44.00</td>
<td>7.39</td>
<td>325</td>
<td>280</td>
<td>0.053</td>
</tr>
<tr>
<td>Fuel Oil Truck Leave Empty</td>
<td>Tanker truck (6000 gal)</td>
<td>12.0</td>
<td>32.0</td>
<td>44.00</td>
<td>7.39</td>
<td>99</td>
<td>280</td>
<td>0.053</td>
</tr>
</tbody>
</table>

#### Controls

- **Mitigated PTE of PM** = (Mitigated PTE of PM10) $\times$ (Mitigated Emission Factor (tons/yr))
- **Mitigated PTE of PM10** = (Maximum one-way miles (miles/yr)) $\times$ (Mitigated Emission Factor (tons/yr))

#### Equations

$\text{Maximum one-way miles (miles/yr)} = \frac{\text{Maximum one-way distance (mi/trip)}}{5280 \text{ ft/mile}}$

$\text{Average Miles Per Trip (miles/trip)} = \frac{\text{Total Weight driven per year (ton/yr)}}{\text{Maximum trips per year (trip/yr)}}$

$\text{Average Vehicle Weight Per Trip} = \frac{\text{Total Weight driven per year (ton/yr)}}{\text{Maximum trips per year (trip/yr)}}$

$\text{Total Weight driven per year (ton/yr)} = \text{Maximum Weight of Vehicle and Load (tons)} \times \text{Maximum trips per year (trip/yr)}$
Appendix A.2: Limited Emissions Summary
Cold Mix Asphalt Production and Stockpiles

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

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 = 0.0 tons/yr

<table>
<thead>
<tr>
<th>Volatile Organic Compounds</th>
<th>Maximum weight % of VOC solvent in binder</th>
<th>Weight % VOC solvent in binder that evaporates</th>
<th>VOC Solvent Usage Limitation (tons/yr)</th>
<th>Limited PTE of VOC (tons/yr)</th>
<th>Liquid Binder Adjustment Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)</td>
<td>25.3%</td>
<td>95.0%</td>
<td>0.0</td>
<td>0.0</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>Cut back asphalt medium cure (assuming kerosene solvent)</td>
<td>28.6%</td>
<td>70.0%</td>
<td>0.0</td>
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<td>#DIV/0!</td>
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<tr>
<td>Cut back asphalt slow cure (assuming fuel oil solvent)</td>
<td>20.0%</td>
<td>25.0%</td>
<td>0.0</td>
<td>0.0</td>
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<tr>
<td>Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)</td>
<td>15.0%</td>
<td>46.4%</td>
<td>0.0</td>
<td>0.0</td>
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<tr>
<td>Other asphalt with solvent binder</td>
<td>25.9%</td>
<td>2.5%</td>
<td>0.0</td>
<td>0.0</td>
<td>#DIV/0!</td>
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</tbody>
</table>

Worst Case Limited PTE of VOC = 0.0 tons/yr

<table>
<thead>
<tr>
<th>Hazardous Air Pollutants</th>
<th>Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents</th>
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</thead>
<tbody>
<tr>
<td>1,3-Butadiene</td>
<td>106-99-0</td>
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<tr>
<td>2,2,4-Trimethylpentane</td>
<td>540-84-1</td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>63-32-9</td>
</tr>
<tr>
<td>Acenaphthylene</td>
<td>208-86-8</td>
</tr>
<tr>
<td>Anthracene</td>
<td>120-12-7</td>
</tr>
<tr>
<td>Benzenne</td>
<td>71-43-2</td>
</tr>
<tr>
<td>Benzo(a)anthracene</td>
<td>56-55-3</td>
</tr>
<tr>
<td>Benzo(a)pyrene</td>
<td>50-32-9</td>
</tr>
<tr>
<td>Benzo(ghi)perylene</td>
<td>191-24-2</td>
</tr>
<tr>
<td>Biphenyl</td>
<td>92-52-4</td>
</tr>
<tr>
<td>Chrysene</td>
<td>218-01-9</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
</tr>
<tr>
<td>Fluoranthene</td>
<td>206-44-0</td>
</tr>
<tr>
<td>Fluorene</td>
<td>86-73-7</td>
</tr>
<tr>
<td>Indeno(1,2,3-cd)pyrene</td>
<td>193-39-5</td>
</tr>
<tr>
<td>Methyl-tert-butylether</td>
<td>1634-04-4</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
</tr>
<tr>
<td>n-Hexane</td>
<td>110-54-3</td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>85-01-8</td>
</tr>
<tr>
<td>Pyrene</td>
<td>129-50-0</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
</tr>
<tr>
<td>Total Xylenes</td>
<td>1130-20-7</td>
</tr>
<tr>
<td>Total Organic HAPs</td>
<td>26.08%</td>
</tr>
<tr>
<td>Worst Single HAP</td>
<td>0.33%</td>
</tr>
</tbody>
</table>

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)]


Composition of Petroleum Mixtures. The Association for Environmental Health and Science.

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

Hazardous Air Pollutants

<table>
<thead>
<tr>
<th>Hazardous Air Pollutant (HAP) Content (% by weight)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasoline</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
</tr>
<tr>
<td>2,2,4-Trimethylpentane</td>
</tr>
<tr>
<td>Acenaphthene</td>
</tr>
<tr>
<td>Acenaphthylene</td>
</tr>
<tr>
<td>Anthracene</td>
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<td>Methyl-tert-butylether</td>
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<tr>
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<tr>
<td>Phenanthrene</td>
</tr>
<tr>
<td>Pyrene</td>
</tr>
<tr>
<td>Toluene</td>
</tr>
<tr>
<td>Total Xylenes</td>
</tr>
<tr>
<td>Total Organic HAPs</td>
</tr>
</tbody>
</table>

Worst Single HAP | 0.33% | 1.29% | 0.68% | 0.19%
Appendix A.2: Limited Emissions Summary
Gasoline Fuel Transfer and Dispensing Operation

Company Name: Harding Materials
Source Address: 5145 East 96th St., Indianapolis, 46240
SPR No: 097-41822-00082
Reviewer: Mehul Sura

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:

\[
\text{Gasoline Throughput} = \text{1,300 gallons/day} = \frac{1,300}{365} \approx 474.5 \text{ kgal/yr}
\]

### Volatile Organic Compounds

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Emission Factor (lb/kgal of throughput)</th>
<th>PTE of VOC (tons/yr)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filling storage tank (balanced submerged filling)</td>
<td>0.3</td>
<td>0.07</td>
</tr>
<tr>
<td>Tank breathing and emptying</td>
<td>1.0</td>
<td>0.24</td>
</tr>
<tr>
<td>Vehicle refueling (displaced losses - controlled)</td>
<td>1.1</td>
<td>0.26</td>
</tr>
<tr>
<td>Spillage</td>
<td>0.7</td>
<td>0.17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>0.74</strong></td>
<td><strong>0.74</strong></td>
</tr>
</tbody>
</table>

### Hazardous Air Pollutants

<table>
<thead>
<tr>
<th></th>
<th>Worst Case Total HAP Content of VOC solvent (weight %)* = 26.08%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Worst Case Single HAP Content of VOC solvent (weight %)* = 9.0% Xylenes</td>
</tr>
<tr>
<td></td>
<td>Limited PTE of Total HAPs (tons/yr) = 0.19 Xylenes</td>
</tr>
<tr>
<td></td>
<td>Limited PTE of Single HAP (tons/yr) = 0.07 Xylenes</td>
</tr>
</tbody>
</table>

### Methodology
The gasoline throughput was provided by the source.

\[
\text{Gasoline Throughput (kgal/yr)} = \frac{\text{Gasoline Throughput (lbs/day)}}{365 \text{ days/yr}} \times \frac{\text{kgal/1000 gal}}{\text{ton/2000 lb}}
\]

\[
\text{PTE of VOC (tons/yr)} = \frac{\text{Gasoline Throughput (kgal/yr)}}{\text{Emission Factor (lb/kgal)}} \times \frac{\text{ton/2000 lb}}{\text{tons/yr}}
\]

\[
\text{PTE of Total HAPs (tons/yr)} = \frac{\text{Worst Case Total HAP Content of VOC solvent (weight %)}}{\text{PTE of VOC (tons/yr)}}
\]

\[
\text{PTE of Single HAP (tons/yr)} = \frac{\text{Worst Case Single HAP Content of VOC solvent (weight %)}}{\text{PTE of VOC (tons/yr)}}
\]


### Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit
October 28, 2019

Gary Matthews
Harding Materials LLC
2916 Kentucky Ave
Indianapolis, IN 46221

Re: Public Notice
Harding Materials
Permit Level: FESOP Significant Permit Rev
Permit Number: 097-41822-00082

Dear Gary Matthews:

Enclosed is a copy of your draft FESOP Significant Permit Rev (Minor PSD/EO) (120), Technical Support Document, emission calculations, and the Public Notice.

The Public Notice period will begin the date the Notice is published on the IDEM Official Public Notice website. Publication has been requested and is expected within 2-3 business days. You may check the exact Public Notice begins and ends date here: https://www.in.gov/idem/5474.htm

Please note that as of April 17, 2019, IDEM is no longer required to publish the notice in a newspaper.

OAQ has submitted the draft permit package to the Indianapolis Marion County Public Library – Nora, 8625 Guilford Avenue in Indianapolis IN 46240. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Mehul Sura, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 3-6868 or dial (317) 233-6868.

Sincerely,

L. Pogost

L. Pogost
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover Letter 4/12/19
October 28, 2019

To: Indianapolis Marion County Public Library - Nora 8625 Guilford Avenue
Indianapolis IN 46240 (Library)

From: Jenny Acker, Branch Chief
Permits Branch
Office of Air Quality

Subject: Important Information to Display Regarding a Public Notice for an Air Permit

Applicant Name: Harding Materials
Permit Number: 097-41822-00082

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. Please make this information readily available until you receive a copy of the final package.

If you have any questions concerning this public review process, please contact Joanne Smiddle-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures
PN Library updated 4/2019
Notice of Public Comment

October 28, 2019
Harding Materials
097-41822-00082

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has posted on IDEM’s Public Notice website at https://www.in.gov/idem/5474.htm.

The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana’s Air Permitting Program.

Please Note: If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.

Enclosure
PN AAA Cover Letter 4/12/2019
### Mail Code 61-53

#### Name and address of Sender

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<th>Insured Value</th>
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<th>S.D. Fee</th>
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<td></td>
<td>Gary Matthews Harding Materials LLC 2916 Kentucky Ave Indianapolis IN 46221 (Source CAATS)</td>
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<td>Shelby Howard IV CEO Harding Materials LLC 2916 Kentucky Ave Indianapolis IN 46221 (RO CAATS)</td>
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<tr>
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<td></td>
<td>Indianapolis City Council and Mayors Office 200 East Washington Street, Room E Indianapolis IN 46204 (Local Official)</td>
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<td>Marion County Commissioners 200 E. Washington St. City County Bldg., Suite 601 Indianapolis IN 46204 (Local Official)</td>
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<td>Matt Mosier Office of Sustainability City-County Bldg/200 E Washington St. Rm# 2460 Indianapolis IN 46204 (Local Official)</td>
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<td>Indianapolis Marion County Public Library - Nora 8625 Guilford Avenue Indianapolis IN 46240 (Library)</td>
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<td>8</td>
<td></td>
<td>Qaiser Baig Cornerstone Environmental 880 Lennox Ct. Zionsville IN 46077 (Consultant)</td>
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<td>Johan &amp; Susan Van Den Heuvel 4409 Blue Creek Drive Carmel IN 46033 (Affected Party)</td>
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<td>Planning Div., Dept. of Metropolitan Development 1735 S. West St. Indianapolis IN 46225 (Local Official)</td>
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<td>City of Indianapolis, Attn: General Council 200 East Washington Street Indianapolis IN 46204 (Affected Party)</td>
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#### Total number of pieces

Total number of pieces Listed by Sender

Total number of Pieces Received at Post Office

Postmaster, Per (Name of Receiving employee)

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