



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

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NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

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

for Walsh & Kelly, Inc.
in Lake County
Significant Permit Revision No.: 089-36770-05255

The Indiana Department of Environmental Management (IDEM) has received an application from Walsh & Kelly, Inc., located at 21201 Wicker Ave., Lowell, IN 46356, for a significant revision of its FESOP No. F089-27021-05255, issued on August 4, 2009. If approved by IDEM's Office of Air Quality (OAQ), this proposed revision would allow Walsh & Kelly, Inc. to make certain changes at its existing source. Walsh & Kelly, Inc. has applied to adjust the ash content limit of the waste oil being used and also to construct new additional emission units.

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 of any 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:

Schneider Branch Library
24002 Parish Avenue
Schneider, Indiana 46376

and

IDEM Northwest Regional Office
330 W. US Highway 30, Suites E & F
Valparaiso, IN 46385

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

How can you participate in this process?

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

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the **air pollution impact** of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public

meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting, you would have an opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so that you can be added to IDEM's mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number SPR No.: 089-36770-05255 in all correspondence.

Comments should be sent to:

Aida DeGuzman
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for extension 3-4972
Or dial directly: (317) 233-4972
Fax: (317) 232-6749 attn: Aida DeGuzman
E-mail: adeguzma@idem.IN.gov

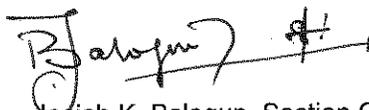
All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have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

For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

What will happen after IDEM makes a decision?

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

If you have any questions, please contact Aida DeGuzman or my staff at the above address.



Jesiah K. Balogun, Section Chief
Permits Branch
Office of Air Quality



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Mr. John Peisker
Walsh & Kelly, Inc.
24358 State Road 23
South Bend, Indiana 46614

Re: 089-36770-05255
Significant Revision to
F089-27021-05255

Dear Mr. Peisker:

Walsh & Kelly, Inc. was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F089-27021-05255 on August 4, 2009 for a portable drum hot mix asphalt plant located at 21201 Wicker Avenue, Lowell, Indiana 46356. On January 27, 2016, the Office of Air Quality (OAQ) received an application from the source requesting an adjustment to the ash content limit of the waste oil being used and also to construct new additional emission units. The attached Technical Support Document (TSD) provides additional explanation of the changes to the source. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit.

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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 attachments. Since these attachments have been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of these attachments with this revision:

Attachment A: Fugitive Dust Control Plan

Attachment B: 40 CFR 60, Subpart I - Standards of Performance for Hot Mix Asphalt Facilities

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

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

A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Aida DeGuzman of my staff at 317-233-4972 or 1-800-451-6027, and ask for extension 3-4972.

Sincerely,

Josiah K. Balogun, Section Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Document and revised permit

JB/APD

cc: File - Lake County
Lake County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch



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Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

Walsh & Kelly, Inc. Portable

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

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

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

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

Operation Permit No.: F089-27021-05255	
Issued by: / <i>Original Signed by:</i> Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 4, 2009 Expiration Date: August 4, 2019
Administrative Amendment No.: 089-36153-05255, issued on September 24, 2015	
Significant Permit Revision No. 089-36770-05255	
Issued by: Josiah K. Balogun, Section Chief Permits Branch Office of Air Quality	Issuance Date: Expiration Date: August 4, 2019

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Attachment A: Fugitive Dust Plan

Attachment B: NSPS Subpart I - Standards of Performance for Hot Mix Asphalt Facilities

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SECTION A

SOURCE SUMMARY

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

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

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

Current Source Address:	21201 Wicker Avenue, Lowell, Indiana 46356
General Source Phone Number:	574-288-4811
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
County Location:	Lake
Source Location Status:	Nonattainment for 8-hour ozone standard Attainment for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD, Emission Offset Rules and Nonattainment NSR Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

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

- (a) One (1) drum dryer/mixer, processing slag in the aggregate mix, with a maximum rated throughput capacity of 400 tons per hour, equipped with one (1) 120 million British thermal units per hour (MMBtu/hr) used or waste oil fuel fired burner, using natural gas and No. 2 distillate fuel oil as backup fuels, using a jetpulse baghouse as control and exhausting to stack S1.

[Under NSPS Subpart I, this is considered an affected hot-mix asphalt facility].

- (b) Cold-mix (stockpile mix) asphalt storage piles.
- (c) Three (3) 30,000 gallon liquid asphalt storage tank, installed in 2004.
- (d) One (1) 21,800 gallon used or waste oil storage tank, installed in 2004.
- (e) One (1) 12,500 gallon No. 2 fuel oil storage tank, approved for installation in 2009.
- (f) One (1) aggregate cold feed system consisting of:
- (1) Two (2) aggregate conveyors;
 - (2) One (1) 5' X 12' aggregate screen; and
 - (3) Five (5) cold feed bins, and approved in 2016 to add two (2) cold feed bins.
- (g) Three (3) HMA silos, each with a capacity of 200 tons, constructed in 2007.
- (h) One (1) dust silo.

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- (i) One (1) Reclaimed Asphalt Pavement (RAP) feed system consisting of:
 - (1) Two (2) RAP feeder bins;
 - (2) One (1) RAP screen; and
 - (3) One (1) RAP conveyor.
- (j) One (1) 1,000 gallon heat transfer oil tank.
- (k) One (1) tertiary crusher, approved in 2016 for construction, with a maximum throughput rate of 300 tons per hour, using water spray for fugitive particulate emissions control.

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

This portable source also includes the following insignificant activities:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million BTU per hour:
 - (1) One (1) No. 2 fuel oil-fired hot oil heater, with a maximum rated heat input capacity of 1.2 MMBtu/hr, and exhausting to stack S2.
- (b) Combustion source flame safety purging on startup.
- (c) Paved and unpaved roads and parking lots with public access.

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

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

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SECTION B

GENERAL CONDITIONS

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

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

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

- (a) This permit, F089-27021-05255, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent 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).

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

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

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

(a) If required by specific condition(s) in Section D of this permit, 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.

The Permittee shall implement the PMPs.

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

The Permittee shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. 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).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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

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

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

- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ or Northwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Northwest Regional Office phone: (219) 464-0233; fax: (219) 464-0553

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

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

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

- (A) A description of the emergency;
- (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.

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- (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 F089-27021-05255 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.

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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
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- (b) A timely renewal application is one that is:
 - (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the

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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

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

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

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

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

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

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

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

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

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

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

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

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

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

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

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

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

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

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

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SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

(a) Pursuant to 326 IAC 2-8:

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

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

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

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

C.3 Opacity [326 IAC 5-1]

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

(a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, while in Lake County.

(b) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in any County except Lake or the areas specified in (3)(a) through (g).

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- (c) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in any areas listed in 326 IAC 5-1-1(c), unless otherwise stated in this permit .
- (d) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period, when the source is located in any County.

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

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

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

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

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

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

C.7 Fugitive Particulate Matter Emissions [326 IAC 6.8-10-3]

Pursuant to 326 IAC 6.8-10-3 (formerly 326 IAC 6-1-11.1) (Lake County Fugitive Particulate Matter Control Requirements), the particulate matter emissions from source wide activities shall meet the following requirements:

- (a) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).
- (b) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).
- (c) The opacity of fugitive particulate emissions from exposed areas shall not exceed ten percent (10%) on a six (6) minutes average.
- (d) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.
- (e) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.
- (f) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.
- (g) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).
- (h) Material processing facilities shall include the following:
 - (1) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from

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a vent in the building.

- (2) The PM₁₀ emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
 - (3) The PM₁₀ stack emissions from a material processing facility shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
 - (4) The opacity of fugitive particulate emissions from the material processing facilities, except a crusher at which a capture system is not used, shall not exceed ten percent (10%) opacity.
 - (5) The opacity of fugitive particulate emissions from a crusher at which a capture system is not used shall not exceed fifteen percent (15%).
- (i) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).
 - (j) Material transfer limits shall be as follows:
 - (1) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).
 - (2) Where adequate wetting of the material for fugitive particulate emissions control is prohibitive to further processing or reuse of the material, the opacity shall not exceed ten percent (10%), three (3) minute average.
 - (3) Slag and kish handling activities at integrated iron and steel plants shall comply with the following particulate emissions limits:
 - (A) The opacity of fugitive particulate emissions from transfer from pots and trucks into pits shall not exceed twenty percent (20%) on a six (6) minute average.
 - (B) The opacity of fugitive particulate emissions from transfer from pits into front end loaders and from transfer from front end loaders into trucks shall comply with the fugitive particulate emission limits in 326 IAC 6.8-10-3(9).
 - (k) Any facility or operation not specified in 326 IAC 6.8-10-3 shall meet a twenty percent (20%), three (3) minute average opacity standard.

The Permittee shall achieve these limits by controlling fugitive particulate matter emissions according to the attached Fugitive Dust Control Plan.

C.8 Stack Height [326 IAC 1-7]

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

C.9 Asbestos Abatement Projects [326 IAC 14-10][326 IAC 18][40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of

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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.

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

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

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

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

C.12 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
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in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

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

C.13 Continuous Compliance Plan [326 IAC 6.8-8-1][326 IAC 6.8-8-8]

- (a) Pursuant to 326 IAC 326 IAC 6.8-8-1, the Permittee shall submit to IDEM and maintain at source a copy of the Continuous Compliance Plan (CCP). The Permittee shall perform the inspections, monitoring and record keeping in accordance with the information in 326 IAC 6.8-8-5 through 326 IAC 6.8-8-7 or applicable procedures in the CCP.
- (b) Pursuant to 326 IAC 6.8-8-8, the Permittee shall update the CCP, as needed, retain a copy of any changes and updates to the CCP at the source and make the updated CCP available for inspection by the department. The Permittee shall submit the updated CCP, if required to IDEM, OAQ within thirty (30) days of the update.
- (c) Pursuant to 326 IAC 6.8-8, failure to submit a CCP, maintain all information required by the CCP at the source, or submit update to a CCP is a violation of 326 IAC 6.8-8.

C.14 Instrument Specifications [326 IAC 2-1.1-11][326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. 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.15 Emergency Reduction Plans [326 IAC 1-5-2][326 IAC 1-5-3]

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

- (a) The Permittee shall 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.16 Risk Management Plan [326 IAC 2-8-4][40 CFR 68]

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

C.17 Response to Excursions or Exceedances [326 IAC 2-8-4][326 IAC 2-8-5]

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

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

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall 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.19 Emission Statement [326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit an emission statement by July 1 following a calendar year when the source is located in Lake, Porter, or LaPorte County and emits oxides of nitrogen or volatile organic compounds into the ambient air equal to or greater

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than twenty-five (25) tons. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

The statement must be submitted to:

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

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

C.20 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.21 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.

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- (b) The address for report submittal is:
- Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Portable Source Requirement

C.22 Relocation of Portable Sources [326 IAC 2-14-4]

- (a) This permit is approved for operation in all areas of Indiana. This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2, 326 IAC 2-1.1-5 and Emission Offset requirements in 326 IAC 2-3.
- (b) A request to relocate shall be submitted to IDEM, OAQ at least thirty (30) days prior to the intended date of relocation. This submittal shall include the following:
- (1) A list of governmental officials entitled to receive notice of application to relocate. IC 13-15-3-1
 - (2) A list of adjacent landowners that the Permittee will send written notice to not more than ten (10) days after submission of the request to relocate. IC 13-15-8
 - (3) The new location address of the portable source.
 - (4) Whether or not this portable source will be relocated to another source.
 - (5) If relocating to another source:
 - (A) Name, location address, and permit number of the source this portable source is relocating to.
 - (B) Whether or not the sources will be considered as one source. See Non Rule Policy (NRP) Air-005 and Air-006.
 - (6) If the sources will be considered as one source, whether or not the source to be relocated to has received the necessary approvals from IDEM to allow the relocation.

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

- (c) A "Relocation Site Approval" letter shall be obtained prior to relocating.

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- (d) A valid operation permit consists of this document and any subsequent "Relocation Site Approval" letter specifying the current location of the portable plant.

Stratospheric Ozone Protection

C.23 Compliance with 40 CFR 82 and 326 IAC 22-1

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

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SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) drum dryer/mixer, processing slag in the aggregate mix, with a maximum rated throughput capacity of 400 tons per hour, equipped with one (1) 120 million British thermal units per hour (MMBtu/hr) re-refined waste fuel fired burner, using natural gas and No. 2 distillate fuel oil as backup fuels, using a jetpulse baghouse as control and exhausting to stack S1.

[Under NSPS Subpart I, this is considered an affected hot-mix asphalt facility].

- (b) Cold-mix (stockpile mix) asphalt storage piles.

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

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

D.1.1 When Located in Lake County Particulate Matter (PM) [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2(a) (Particulate Matter Limitations for Lake County), particulate matter (PM) emissions from the drum-mix dryer shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf) of exhaust air.

D.1.2 When Located in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties Particulate Matter (PM) [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the dryer/mixer shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

D.1.3 Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

- (a) In order to render 326 IAC 2-2 not applicable, the amount of asphalt processed shall not exceed 500,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM emissions from the dryer/mixer shall not exceed 0.876 pounds of PM per ton of asphalt processed.

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

D.1.4 Dryer and Mixer FESOP Minor Limits [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-3][326 IAC 2-1.1-5]

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

- (a) The amount of asphalt processed shall not exceed 500,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM₁₀ emissions from the dryer/mixer shall not exceed 0.358 pounds per ton of asphalt processed.
- (c) The PM_{2.5} emissions from the dryer/mixer shall not exceed 0.377 pounds per ton of asphalt produced

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- (d) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.
- (e) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.

Compliance with these limitations, combined with the limited potential to emit from other emission units at this source, shall limit the source-wide total potential to emit PM10, PM2.5, CO and NOx to less than 100 tons per 12 consecutive month period. VOC emissions are limited to less than 25 tons per year (since this source is approved to relocate in Lake County) and shall render 326 IAC 2-7 (Part 70), 326 IAC 2-3, (Emission Offset), 326 IAC 8-1-6, 326 IAC 2.1.1-5 (Nonattainment New Source Review), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.5 Fuel Limitations [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following fuel limitations combusted in the dryer/mixer burner and all other combustion equipment:

- (a) Sulfur Content and used or waste oil Specifications
 - (1) The sulfur content of the slag shall not exceed 1.5 percent by weight.
 - (2) SO₂ emissions from the slag used in the dryer/mixer shall not exceed 0.74 pounds of SO₂ per ton of slag processed.
 - (3) The sulfur content of No.2 fuel oil shall not exceed 0.50 percent by weight.
 - (4) The sulfur content of the used or waste oil shall not exceed 0.66 percent by weight.
 - (5) The HCl emissions shall not exceed 13.2 pounds of HCl per 1,000 gallons of used or waste oil burned.
 - (6) The used or waste oil combusted shall not contain more than 1.0% ash, 0.200% chlorine, and 0.01% Lead.
- (b) Pursuant to 326 IAC 2-8-4, the SO₂ emissions from the aggregate mixer/dryer burner shall be limited as follows:
 - (1) The usage of Blast Furnace Slag shall not exceed 140,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (2) The usage of used or waste oil and used or waste oil equivalents for the aggregate dryer burner shall not exceed 918,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is equivalent to 99.0 tons/year of SO₂ emissions.

For the purpose of determining compliance with this limit:

- (A) Every 1.24 gallon of No. 2 fuel oil shall be equivalent to 1 gallon of used or waste oil based on SO₂ emissions. However, the used or waste oil and used or waste oil equivalent usage shall in no case exceed 918,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

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- (B) Every 161.7 MMCF of natural gas shall be equivalent to 1,000 gallons of used or waste oil based on SO₂ emissions. However, the used or waste oil and used or waste oil equivalent usage shall in no case exceed 918,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) Pursuant to 326 IAC 2-8-4, the NO_x emissions from the aggregate mixer/dryer burner shall be limited as follows:
- (1) The usage of natural gas and natural gas equivalents for the aggregate dryer burner shall not exceed 1,034.20 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. This is equivalent to 98.25 tons per year of NO_x emissions.

For the purpose of determining compliance with this limit:

- (A) Every 1,000 gallons of No. 2 fuel oil shall be equivalent to 0.126 MMCF of natural gas based on NO_x emissions. However, the natural gas and natural gas equivalent usage shall in no case exceed 1,034.20 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (B) Every 1,000 gallons of used or waste oil shall be equivalent to 0.100 million cubic feet of natural gas based on NO_x emissions. However, the natural gas and natural gas equivalent usage shall in no case exceed 1,034.20 MMCF per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

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

- (a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the dryer/mixer burner shall not exceed five-tenths (0.5) pounds per million Btu heat input when using distillate oil
- (b) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the dryer/mixer burner shall not exceed one and six-tenths (1.6) pounds per million Btu heat when using used or waste oil.
- (c) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.1.7 Volatile Organic Compounds (VOC) [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-3]

- (a) Pursuant to 326 IAC 2-8-4, the VOC solvent used as diluent in the liquid binder used in cold mix asphalt production from the plant shall not exceed 10.8 tons of VOC emissions are emitted per twelve (12) consecutive month period, with compliance determined at the end of each month. This shall be achieved by limiting the total VOC solvent of any one selected binder as follows.

When more than one binder is used, the formula in (6) must be applied so that the total VOC emitted is less than 10.8 tons per twelve (12) consecutive month period, with

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compliance determined at the end of each month.

- (1) Cut back asphalt rapid cure, containing a maximum of 25.3% of the liquid binder by weight of VOC solvent and 95% by weight of VOC solvent evaporating.

Cutback asphalt rapid cure liquid binder usage shall not exceed 11.4 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (2) Cut back asphalt medium cure, containing a maximum of 28.6% of the liquid binder by weight of VOC solvent and 70% by weight of VOC solvent evaporating.

Cutback asphalt medium cure liquid binder usage shall not exceed 15.4 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (3) Cut back asphalt slow cure, containing a maximum of 20% of the liquid binder by weight of VOC solvent and 25% by weight of VOC solvent evaporating.

Cutback asphalt slow cure liquid binder usage shall not exceed 43.2 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (4) Emulsified asphalt with solvent, containing a maximum of 15% of liquid binder by weight of VOC solvent and 46.4% by weight of the VOC solvent in the liquid blend evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be 7% or less of the total emulsion by volume

Emulsified asphalt with solvent liquid binder usage shall not exceed 23.3 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

Other asphalt with solvent liquid binder shall not exceed 432.0 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

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

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

Compliance with these limits, combined with the VOC emissions from other units at this source, will limit source-wide VOC emissions to less than 25 tons per year and render 326 IAC 2-7 (Part 70 Permit Program), 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset) not applicable.

D.1.8 Volatile Organic Compounds (VOCs) [326 IAC 8-5-2]]

Pursuant to 326 IAC 8-5-2 (Miscellaneous Operations: asphalt paving), the owner or operator shall not cause or allow the use of asphalt emulsion containing more than seven (7.0) percent oil distillate by volume of emulsion for any paving application except the following purposes:

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

D.1.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the dryer/burner and drum mixer units and their control device.

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

D.1.10 Testing Requirements [326 IAC 2-8-5(a)(1),(4)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.1.1, D.1.2, D.1.3 and D.1.4, the Permittee shall perform PM, PM 2.5 and PM10 testing of the dryer/mixer (Baghouse CD-1), at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.1.11 Particulate Control [326 IAC 2-8-5(a)(1),(4)]

- (a) In order to comply with Conditions D.1.1, D.1.2, D.1.3 and D.1.4, the baghouse for particulate control shall be in operation and control emissions from the dryer/mixer at all times when the dryer/mixer is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations

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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.1.12 Sulfur Dioxide (SO₂) Emissions and Sulfur Content [326 IAC 2-8-5(a)(1),(4)]

Compliance with the sulfur dioxide emissions and sulfur content limitations in Conditions D.1.4(a), and D.1.5 shall be determined utilizing one of the following options:

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate compliance with sulfur dioxide emissions and sulfur content limitations by:
 - (1) Providing vendor analysis of heat content and sulfur content of fuel delivered, if accompanied by a vendor certification; or
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the dryer/mixer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

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

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

D.1.13 Visible Emission Notations [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

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

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from this permit.

D.1.14 Broken or Failed Bag Detection [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

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)][326 IAC 2-8-16]

D.1.15 Record Keeping Requirements [326 IAC 2-8-4(3)][326 IAC 2-8-16]

- (a) To document the compliance status with Conditions D.1.3 and D.1.4 the Permittee shall keep records of the amount of asphalt processed through the dryer/mixer. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.
- (b) To document the compliance status with Condition D.1.5, the Permittee shall maintain records in accordance with (1) through (9) below.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Actual slag usage, sulfur content and equivalent sulfur dioxide emission rates for all slag used at the source per month;
 - (3) A certification, signed by the owner or operator, that the records of the slag supplier certifications represent all of the slag used during the period; and
 - (4) If the slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Slag supplier certifications;
 - (ii) The name of the slag supplier; and
 - (iii) A statement from the slag supplier that certifies the sulfur content of the slag.
 - (5) Actual used or waste oil and used or waste oil equivalent usage in the 120 MMBtu per hour burner and other combustion equipment for the aggregate dryer per month since last compliance determination period and equivalent SO₂ emissions;

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- (6) Actual natural gas and natural gas equivalent usage in the 120 MMBtu per hour burner and other combustion equipment for the aggregate dryer per month since last compliance determination period and equivalent NOx emissions;
- (7) Actual No. 2 fuel oil and No. 2 fuel oil equivalent usage in the 120 MMBtu per hour burner and other combustion equipment for the aggregate dryer per month since last compliance determination period and equivalent NOx emissions;
- (8) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and
- (9) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Fuel supplier certifications.
 - (ii) The name of the fuel supplier; and
 - (iii) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (c) The Permittee shall maintain records sufficient to verify compliance with the procedures specified in Condition D.1.5. Records shall be maintained for a period of five (5) years and shall be made available upon request by IDEM.
- (d) To document the compliance status with Condition D.1.7 the Permittee shall maintain records in accordance with (a) through (d) below. Records maintained for (a) through (d) below shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limit established in Condition D.1.4(e).
 - (a) Compliance dates covered in the compliance determination period;
 - (b) Cutback asphalt slow cure liquid binder usage in the production of cold mix asphalt each month;
 - (c) VOC solvent by weight of the cutback asphalt slow cure liquid binder used in the production of cold mix asphalt each month;
 - (d) Amount of VOC solvent used in the production of cold mix asphalt, and the amount of VOC emitted each month.

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

- (e) To document the compliance status with Condition D.1.13, the Permittee shall maintain

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records of visible emission notations of the dryer/mixer baghouse stack once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

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

D.1.16 Reporting Requirements [326 IAC 2-8-4(3)][326 IAC 2-8-16]

A quarterly summary of the information to document the compliance status with Conditions D.1.3, D.1.4, and D.1.5 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The reports submitted by the Permittee 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).

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NSPS

SECTION E.1

Emissions Unit Description: Hot-Mix Asphalt Plant

- (a) One (1) hot asphalt drum mixer capable of processing 400 tons per hour of raw material, equipped with one (1) 120 million British thermal units (MMBtu) per hour used or waste fuel fired burner, using natural gas and No. 2 distillate fuel oil as backup fuels, controlling particulate emissions with one (1) jetpulse baghouse, exhausting at one (1) stack, identified as S1;

[Under NSPS subpart I, this is considered an affected hot-mix asphalt facility].

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

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

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

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

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

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

E.2 Standard of Performance for Hot Mix Asphalt Facilities [40 CFR Part 60, Subpart I][326 IAC 12]

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

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

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY**

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

Source Name: Walsh & Kelly, Inc.
Initial Source Address: 21201 Wicker Avenue, Lowell, Indiana 46356
FESOP Permit No.: F089-27021-05255

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

Please check what document is being certified:

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

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

Signature:

Printed Name:

Title/Position:

Date:

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

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

Source Name: Walsh & Kelly, Inc.
Initial Source Address: 21201 Wicker Avenue, Lowell, Indiana 46356
FESOP Permit No.: F089-27021-05255

This form consists of 2 pages

Page 1 of 2

- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16

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

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

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

Page 2 of 2

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

Form Completed by: _____
Title / Position: _____
Date: _____
Phone: _____

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

FESOP Quarterly Report

Source Name: Walsh and Kelly, Inc.
Source Address: 21201 Wicker Avenue, Lowell, Indiana 46356
FESOP No.: F089-27021-05255
Facility: 120 MMBtu per hour aggregate dryer burner
Parameter: Used or waste oil usage limit to limit SO₂ emissions
Limit: the usage of used or waste oil with a sulfur content of 0.66% and used or waste oil equivalents in the 120 MMBtu per hour burner for the aggregate dryer shall be limited to 918,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Used or waste oil and equivalent usage this month (gallons)	Used or waste oil and equivalent usage previous 11 months (gallons)	12 month total used or waste oil and equivalent usage (gallons)

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

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

FESOP Quarterly Report

Source Name: Walsh and Kelly, Inc.
Source Address: 21201 Wicker Avenue, Lowell, Indiana 46356
FESOP No.: F089-27021-05255
Facility: Dryer/Burner
Parameter: Hot Mix Asphalt Production
Limit: The amount of hot mix asphalt produced in the dryer/burner shall not exceed 500,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Hot Mix Asphalt Produced This Month (tons)	Hot Mix Asphalt Produced Previous 11 Months (tons)	12 Month Total Hot Mix Asphalt Produced (tons)

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

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

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

FESOP Quarterly Report

Source Name: Walsh and Kelly, Inc.
Source Address: 21201 Wicker Avenue, Lowell, Indiana 46356
FESOP No.: F089-27021-05255
Facility: Entire Asphalt Plant
Parameter: Slag Usage
Limit: This source shall use slag containing aggregate mixes with less than or equal to 1.5% sulfur by weight, and shall not exceed more than 140,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month (tons)	Previous 11 Months (tons)	12 Month Total (tons)

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

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

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

FESOP Quarterly Report

Source Name: Walsh and Kelly, Inc.
Initial Source Address: 21201 Wicker Avenue, Lowell, Indiana 46356
FESOP No.: F089-27021-05255
Facility: 120 MMBtu per hour aggregate dryer burner
Parameter: Natural gas usage limit to limit NOx emissions
Limit: the usage of natural gas with and natural gas equivalents in the 120 MMBtu per hour burner for the aggregate dryer shall be limited to 1,034.2 million (MM) cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the fuel equivalency ratios in Condition D.1.5 shall be used.

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Natural gas and equivalent usage this month (MMcf)	Natural gas and equivalent usage previous 11 months (MMcf)	12 month total Natural gas and equivalent usage (MMcf)

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

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

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

FESOP Quarterly Report

Source Name: Walsh and Kelly, Inc.
Initial Source Address: 21201 Wicker Avenue, Lowell, Indiana 46356
FESOP No.: F089-27021-05255
Facility: Cold mix asphalt storage
Parameter: VOC
Limit: The VOC solvent used as diluent in the liquid binder used in cold mix asphalt production from the plant shall not exceed 10.8 tons of VOC emissions are emitted per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Total VOC solvent usage this month (gallons)	Total VOC solvent usage previous 11 months (gallons)	12 month total VOC solvent usage (gallons)

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

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

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

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Walsh & Kelly, Inc.
Initial Source Address: 21201 Wicker Avenue, Lowell, Indiana 46356
FESOP Permit No.: F089-27021-05255

Months: _____ to _____ Year: _____

Page 1 of 2

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

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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

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

Source Description and Location

Source Name: Walsh & Kelly, Inc.
Current Source Location: 21201 Wicker Ave., Lowell, IN 46356
County: Lake
SIC Code: 2951 (Asphalt Paving Mixtures and Blocks)
Operation Permit No.: F089-27021-05255
Operation Permit Issuance Date: August 4, 2009
Significant Permit Revision No.: 089-36770-05255
Permit Reviewer: Aida DeGuzman

On January 27, 2016, the Office of Air Quality (OAQ) received an application from Walsh & Kelly, Inc. related to a modification to an existing portable drum hot mix asphalt plant.

Existing Approvals

The source was issued FESOP Renewal No. F089-27021-05255 on August 4, 2009. The source has since received Administrative Amendment, No. 089-36153-05255, issued on September 24, 2015.

County Attainment Status

The source is located in Lake County

Pollutant	Designation
SO ₂	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of East Chicago bounded by Columbus Drive on the north; the Indiana Harbor Canal on the west; 148 th Street, if extended, on the south; and Euclid Avenue on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of East Chicago and Lake County.
O ₃	On June 11, 2012, the U.S. EPA designated Lake County nonattainment, for the 8-hour ozone standard. ¹²
PM _{2.5}	Attainment effective February 6, 2012, for the annual PM _{2.5} standard.
PM _{2.5}	Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM _{2.5} standard.
PM ₁₀	Attainment effective March 11, 2003, for the cities of East Chicago, Hammond, Whiting, and Gary. Unclassifiable effective November 15, 1990, for the remainder of Lake County.
NO ₂	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.

¹The U. S. EPA has acknowledged in both the proposed and final rulemaking for this redesignation that the anti-backsliding provisions for the 1-hour ozone standard no longer apply as a result of the redesignation under the 8-hour ozone standard. Therefore, permits in Lake County are no longer subject to review pursuant to Emission Offset, 326 IAC 2-3 for the 1-hour standard.

²The department has filed a legal challenge to U.S. EPA's designation in 77 FR 34228.

- (a) Ozone Standards
 U.S. EPA, in the Federal Register Notice 77 FR 112 dated June 11, 2012, has designated Lake County as nonattainment for ozone. On August 1, 2012, the air pollution control board issued an emergency rule adopting the U.S. EPA's designation. This rule became effective August 9,

2012. IDEM does not agree with U.S. EPA's designation of nonattainment. IDEM filed a suit against U.S. EPA in the U.S. Court of Appeals for the DC Circuit on July 19, 2012. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's designation. Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Therefore, VOC and NO_x emissions were evaluated pursuant to the requirements of Emission Offset, 326 IAC 2-3.

- (b) **PM_{2.5}**
 Lake County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**
 Lake 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 of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7; however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980 (40 CFR 60, Subpart I - New Source Performance Standards for Hot Mix Asphalt Facilities). Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Status of the Existing Source

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

This PTE table is from the TSD of FESOP Renewal No.F089-27021-05255, issued on August 4, 2009.

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)								
	PM	PM10*	PM2.5**	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Point Source Emissions									
Fuel Combustion (worst case)	14.40	11.48	11.48	44.53	98.25	2.84	43.44	7.38	5.94 hydrogen chloride
Dryer/Mixer	219.87	89.90	94.62	14.50	13.75	8.00	32.5	2.66	0.78 formaldehyde
Dryer/Mixer Slag Processing	0	0	0	51.80	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst Case)	0.08	0.12	0.12	2.67	0.75	0.01	0.19	0.00	0.002 hexane
Generator	0.0002	0.0008	0.001	0.003	0.010	0.001	0.008	0.0002	0.00018 hexane
Worst Case Emissions	219.95	90.02	94.74	99.00	99.01	8.01	43.63	7.28	5.94 hydrogen chloride
Fugitive Emissions									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.28	0.28	0.28	0	0	4.28	0.72	0.07	0.02 formaldehyde
Material Storage Piles	0.67	0.23	0.23	0	0	0	0	0	0
Material Processing and Handling	1.62	0.76	0.12	0	0	0	0	0	0

Material Crushing, Screening, and Conveying	7.93	2.9	2.90	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	17.77	4.53	0.45	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	10.76	0	2.81	0.97 xylenes
Gasoline Dispensing	0	0	0	0	0	0	0	0	0
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl.	0	negl.	negl.
Total Fugitive Emissions	28.27	8.7	3.98	0	0	15.04	0.72	2.88	0.97 xylenes
Insignificant Activities	0.08	0.04	0.04	2.69	0.77	0.03	0.45	--	
Total PTE of Entire Source	249.00	99.00	99.00	99.00	99.01	23.05	44.35	10.16	5.94 hydrogen chloride
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	NA	250	NA	NA
Emission Offset Source Thresholds	NA	NA	NA	NA	100	100	NA	NA	NA

negl. = negligible

* Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant".

**PM_{2.5} listed is direct PM_{2.5}.

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

Note: The Dryer Fuel Combustion and Dryer/Mixer are part of the same process, therefore the worst case emission was selected between these process as the worst case emission. In this case, the Dryer/Mixer emission was the worst case.

- (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 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 stationary source under Emission Offset (326 IAC 2-3), because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or more.
- (c) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the potential to emit HAPs is less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Walsh & Kelly, Inc. on January 27, 2016 relating to the following:

- (a) Addition of two (2) cold feed bins, approved in 2016 for construction.
- (b) Addition of one (1) tertiary crusher, approved in 2016 for construction, with a maximum throughput rate of 300 tons per hour, using water spray for fugitive particulate emissions control.
- (c) Increase in the allowable ash content of the recycled waste oil from 0.5% to 1.0%.
- (d) Specify in Condition D.1.5(b)(1) that the 140,000 tons of slag limit per twelve (12) consecutive month period is for blast furnace slag, and that the use of steel slag be unlimited.
- (e) Change in the acreage of the aggregate piles and the addition of shingles and limestone as ingredients to the aggregate mix.

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – FESOP Revision

Pursuant to 326 IAC 2-8-11.1(f), this FESOP is being revised through a FESOP Significant Permit Revision because the proposed revision is not an Administrative Amendment or Minor Permit revision and the proposed revision involves adjusting FESOP limits.

PTE of the Entire Source After Issuance of the FESOP Revision

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

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)								
	PM	PM10*	PM2.5**	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Point Source Emissions									
Fuel Combustion (worst case)	14.40 29.38	11.48 23.41	11.48 23.41	44.53	98.25	2.84	43.44	7.38 7.41	5.94 6.06 hydrogen chloride
Dryer/Mixer	219.87 218.93	89.90 89.57	94.62 94.29	14.50	13.75	8.00	32.5	2.66	0.78 formaldehyde
Dryer/Mixer Slag Processing	0	0	0	51.80	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst Case)	0.08	0.12	0.12	2.67	0.75	0.04 0.03	0.19 0.44	0.00 0.01	0.002 0.009 hexane
Generator	0.0002	0.0008	0.001	0.003	0.010	0.001	0.008	0.0002	0.00018 hexane
Worst Case Emissions	219.95 219.01	90.02 89.69	94.74 94.41	99.00	99.01	8.04 8.03	43.63 43.88	7.28 7.42	5.94 6.06 hydrogen chloride
Fugitive Emissions									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.28	0.28	0.28	0	0	4.28	0.72	0.07	0.02 formaldehyde
Material Storage Piles	0.67 2.41	0.23 0.84	0.23 0.84	0	0	0	0	0	0
Material Processing and Handling	1.62	0.76	0.12	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	7.93	2.9	2.90	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	17.76	4.53	0.45	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	10.76	0	2.81	0.97 xylenes
Gasoline Dispensing	0	0	0	0	0	0	0	0	0
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl.	0	negl.	negl.
Total Fugitive Emissions	28.27 29.99	8.7 9.31	3.98 4.59	0	0	15.04 15.08	0.72	2.88 2.89	0.97 xylenes
Insignificant Activities	0.08	0.04	0.04	2.69	0.77	0.03	0.45	--	

Total PTE of Entire Source	249.00	99.00	99.00	99.00	99.00	23.05 23.11	44.35 44.60	10.16 10.31	5.94 6.06 hydrogen chloride
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	NA	250	NA	NA
Emission Offset Source Thresholds	NA	NA	NA	NA	100	100	NA	NA	NA

negl. = negligible

* Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant".

**PM_{2.5} listed is direct PM_{2.5}.

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

Note: The Dryer Fuel Combustion and Dryer/Mixer are part of the same process, therefore the worst case emission was selected between these process as the worst case emission. In this case, the Dryer/Mixer emission was the worst case.

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

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)								
	PM	PM10*	PM2.5**	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Point Source Emissions									
Fuel Combustion (worst case)	29.38	23.41	23.41	44.53	98.25	2.84	43.44	7.41	6.06 hydrogen chloride
Dryer/Mixer	218.93	89.57	94.29	14.50	13.75	8.00	32.5	2.66	0.78 formaldehyde
Dryer/Mixer Slag Processing	0	0	0	51.80	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst Case)	0.08	0.12	0.12	2.67	0.75	0.03	0.44	0.01	0.009 hexane
Worst Case Emissions	219.01	89.69	94.41	99.00	99.00	8.03	43.88	7.42	6.06 hydrogen chloride
Fugitive Emissions									
Asphalt Load-Out, Silo Filling, On-Site Yard	0.28	0.28	0.28	0	0	4.28	0.72	0.07	0.02 formaldehyde
Material Storage Piles	2.41	0.84	0.84	0	0	0	0	0	0
Material Processing and Handling	1.62	0.76	0.12	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	7.93	2.90	2.90	0	0	0	0	0	0
Paved and Unpaved Roads (worst case)	17.76	4.53	0.45	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	10.76	0	2.81	0.97 xylenes
Gasoline Dispensing	0	0	0	0	0	0	0	0	0
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl.	0	negl.	negl.
Total Fugitive Emissions	29.99	9.31	4.59	0	0	15.08	0.72	2.89	0.97 xylenes
Insignificant Activities	0.08	0.04	0.04	2.69	0.77	0.03	0.45	--	
Total PTE of Entire Source	249.00	99.00	99.00	99.00	99.00	23.11	44.60	10.31	6.06 hydrogen chloride
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	NA	250	NA	NA
Emission Offset Source Thresholds	NA	NA	NA	NA	100	100	NA	NA	NA

negl. = negligible

* Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant".

**PM_{2.5} listed is direct PM_{2.5}.

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

Note: The Dryer Fuel Combustion and Dryer/Mixer are part of the same process, therefore the worst case emission was selected between these process as the worst case emission. In this case, the Dryer/Mixer emission was the worst case.

(a) FESOP Status

This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants, and HAPs from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP).

(1) Criteria Pollutants

The limit in the ash content of the used waste oil was adjusted from 0.50% to 1.0% in this permitting action.

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the source shall comply with the following:

Particulate Matter (PM)

- (A) The amount of asphalt processed shall not exceed 500,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (B) The PM emissions from the dryer/mixer shall not exceed ~~0.879~~ **0.876** pounds of PM per ton of asphalt processed.

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

Dryer and Mixer FESOP Limits

- (A) The amount of asphalt processed shall not exceed 500,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (B) The PM10 emissions from the dryer/mixer shall not exceed ~~0.360~~ **0.358** pounds per ton of asphalt processed.
- (C) The PM2.5 emissions from the dryer/mixer shall not exceed ~~0.378~~ **0.377** pounds per ton of asphalt produced
- (D) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.
- (E) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.

Compliance with these limitations, combined with the limited potential to emit from other emission units at this source, shall limit the source-wide total potential to emit PM10, PM2.5, CO and NOx to less than 100 tons per 12 consecutive month period. VOC emissions are limited to less than 25 tons per year (since this source is approved to relocate in Lake County) and shall render 326 IAC 2-7 (Part 70), 326 IAC 2-3, (Emission

Offset), 326 IAC 8-1-6, 326 IAC 2.1.1-5 (Nonattainment New Source Review), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Fuel Limitations

The Permittee shall comply with the following fuel limitations combusted in the dryer/mixer burner and all other combustion equipment:

- (A) Sulfur Content and used or waste oil Specifications
 - (i) The sulfur content of the slag shall not exceed 1.5 percent by weight.
 - (ii) SO₂ emissions from the slag used in the dryer/mixer shall not exceed 0.74 pounds of SO₂ per ton of slag processed.
 - (iii) The sulfur content of No.2 fuel oil shall not exceed 0.50 percent by weight.
 - (iv) The sulfur content of the used or waste oil shall not exceed 0.66 percent by weight.
 - (v) The HCl emissions shall not exceed 13.2 pounds of HCl per 1,000 gallons of used or waste oil burned.
 - (vi) The used or waste oil combusted shall not contain more than ~~0.50~~ **1.0%** ash, 0.200% chlorine, and 0.01% Lead.

- (B) The SO₂ emissions from the aggregate mixer/dryer burner shall be limited as follows:
 - (i) The usage of **blast furnace** slag shall not exceed 140,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (ii) The usage of used or waste oil and used or waste oil equivalents for the aggregate dryer burner shall not exceed ~~900,000~~ **918,000** gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is equivalent to 99.0 tons/year of SO₂ emissions.

For the purpose of determining compliance with this limit:

- (1) Every 1.24 gallon of No. 2 fuel oil shall be equivalent to 1 gallon of used or waste oil based on SO₂ emissions. However, the used or waste oil and used or waste oil equivalent usage shall in no case exceed ~~900,000~~ **918,000** gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) Every 161.7 MMCF of natural gas shall be equivalent to 1,000 gallons of used or waste oil based on SO₂ emissions. However, the used or waste oil and used or waste oil equivalent usage shall in no case exceed ~~900,000~~ **918,000** gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (C) The NOx emissions from the aggregate mixer/dryer burner shall be limited as follows:
- (i) The usage of natural gas and natural gas equivalents for the aggregate dryer burner shall not exceed 1,034.20 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. This is equivalent to 98.25 tons per year of NOx emissions.

For the purpose of determining compliance with this limit:

- (A) Every 1,000 gallons of No. 2 fuel oil shall be equivalent to 0.126 MMCF of natural gas based on NOx emissions. However, the natural gas and natural gas equivalent usage shall in no case exceed 1,034.20 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (B) Every 1,000 gallons of used or waste oil shall be equivalent to 0.100 million cubic feet of natural gas based on NOx emissions. However, the natural gas and natural gas equivalent usage shall in no case exceed 1,034.20 MMCF per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

Volatile Organic Compounds (VOC)

The VOC solvent used as diluent in the liquid binder used in cold mix asphalt production from the plant shall not exceed 10.8 tons of VOC emissions are emitted per twelve (12) consecutive month period, with compliance determined at the end of each month. This shall be achieved by limiting the total VOC solvent of any one selected binder as follows.

When more than one binder is used, the formula in (6) must be applied so that the total VOC emitted is less than 10.8 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (A) Cut back asphalt rapid cure, containing a maximum of 25.3% of the liquid binder by weight of VOC solvent and 95% by weight of VOC solvent evaporating.
- Cutback asphalt rapid cure liquid binder usage shall not exceed ~~44.3~~ **11.4** tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (B) Cut back asphalt medium cure, containing a maximum of 28.6% of the liquid binder by weight of VOC solvent and 70% by weight of VOC solvent evaporating.
- Cutback asphalt medium cure liquid binder usage shall not exceed 15.4 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (C) Cut back asphalt slow cure, containing a maximum of 20% of the liquid binder by

weight of VOC solvent and 25% by weight of VOC solvent evaporating.

Cutback asphalt slow cure liquid binder usage shall not exceed ~~43~~ **43.2** tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

Emulsified asphalt with solvent liquid binder usage shall not exceed ~~23.2~~ **23.3** tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

Other asphalt with solvent liquid binder shall not exceed ~~430.4~~ **432.0** tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

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

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

Compliance with these limits, combined with the VOC emissions from other units at this source, will limit source-wide VOC emissions to less than 25 tons per year and render 326 IAC 2-7 (Part 70 Permit Program), 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset) not applicable.

(2) HAPs

The source is an area source for HAPs emissions because it has unlimited PTE of less than ten (10) tons per year for single HAP and less than twenty-five (25) tons per year for total HAPs.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS):

- (a) 40 CFR 60.110b, Subpart Kb - New Source Performance Standard for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984,

The proposed two (2) cold feed bins are not subject to 40 CFR Part 60, Subpart Kb because these bins will not store volatile organic liquid. Cold feed bins are used to accurately meter the different aggregates used in the mix to the drying drum.

- (b) 40 CFR 60, Subpart I - Standards of Performance for Hot Mix Asphalt Facilities
This subpart applies to each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

The proposed two (2) cold feed bins are not subject to NSPS, 40 CFR 60, Subpart I because they are not used to store hot aggregates. These bins are used to accurately meter the different aggregates used in the mix to the drying drum.

The proposed tertiary crusher is not subject to NSPS, 40 CFR 60, Subpart I because it will not be utilized in the hot mix asphalt processing. It will be utilized to crush asphalt pavement (RAP).

- (c) There are no other New Source Performance Standards (40 CFR Part 60) and 326 IAC 12 included for this proposed revision.
- (d) The NSPS determinations already made for the existing units will not be affected by this permit revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (a) There are no National Emission Standards for Hazardous Air Pollutants (40 CFR Part 63), 326 IAC 14 and 326 IAC 20 included 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 potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

- (a) 326 IAC 2-8-4 (FESOP)
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the

provisions of 326 IAC 2-8 (FESOP). See PTE of the Entire Source After Issuance of the FESOP Revision Section above.

- (b) 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (c) 326 IAC 2-3 (Emission Offset)
This modification to an existing Emission Offset minor stationary source will not change the Emission Offset minor status, because the potential to emit of all nonattainment regulated pollutants from the entire source will continue to be less than the Emission Offset major source threshold levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (d) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The proposed revision is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from each of the new units is 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.
- (e) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
 - (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when not located in Lake County or the areas listed in 326 IAC 5-1-1(c).
 - (2) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when located in Lake County.
 - (3) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when located in any of the following areas:
 - (A) Clark County, Jeffersonville Township.
 - (B) Dearborn County, Lawrenceburg Township.
 - (C) Dubois County, Bainbridge Township.
 - (D) Lake County, an area bounded on the north by Lake Michigan, on the west by the Indiana-Illinois state line, on the south by U.S. 30 from the state line to the intersection of I-65 to the intersection of I-94 then following I-94 to the Lake-Porter county line, and on the east by the Lake-Porter county line.
 - (E) Marion County, except the area of Washington Township east of Fall Creek and the area of Franklin Township south of Thompson Road and east of Five Points Road.
 - (F) St. Joseph County, the area north of Kern Road and east of Pine Road.
 - (G) Vanderburgh County, the area included in the city of Evansville and Pigeon Township.
 - (H) Vigo County, the area within a five-tenths (0.5) kilometer radius circle centered at UTM Coordinates Zone 16 East four hundred sixty-four and fifty-two hundredths (464.52) kilometers North four thousand three hundred sixty-nine and twenty-one hundredths (4,369.21) kilometers.

- (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (f) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (g) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source has been determined to be subject to 326 IAC 6-5 since it has potential fugitive emissions of 25 tons per year or more and can potentially relocate to the counties listed in 326 IAC 6-5-1(a)(1)(2). Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan, submitted on April 1, 2004, which is included as Attachment A to the permit.
- (h) 326 IAC 6.8-10 (Lake County: Fugitive Particulate Matter)
The Permittee is subject to the requirements of 326 IAC 6.8-10, and when located in Lake County, shall continue to control fugitive particulate matter emissions according to the Fugitive Dust Control Plan, which is included as Attachment A to the permit.
- (i) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.
- (j) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.
- (k) 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)
The proposed two (2) cold feed bins are not subject to 326 IAC 8-9 because these tanks are not used to store volatile organic liquid (VOL). They are used for metering the different aggregates used in the mix to the drying drum.
- (l) 326 IAC 8-5-2 (Asphalt paving Rules)
The applicability of 326 IAC 8-5-2 will not be affected by this permit revision. The source will continue to be subject to the requirements of this rule.

Compliance Determination, Monitoring and Testing Requirements

The existing compliance requirements will not change as a result of this revision. The source shall continue to comply with the applicable requirements and permit conditions as contained in FESOP No: F089-27021-05255, issued on August 4, 2009.

Proposed Changes

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

- (a) The FESOP terms and conditions have been updated and clarified to reflect the updated version of the rules.
- (b) Section A.2 and Section D.1 have been revised to include the new emission units descriptions and include the adjustment in the ash content of the recycled waste oil from 0.5% to 1.0%.
- (c) IDEM added the rule citation 326 IAC 2-8-4(1) to the Compliance Determination Requirements subsection title in D.1.

- (d) Section E.1 has been revised to change the Section Title and add the NSPS Subsection Title for clarification purposes.

Section A.2 Changes:

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

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

- (a) One (1) drum dryer/mixer, processing slag in the aggregate mix, with a maximum rated throughput capacity of 400 tons per hour, equipped with one (1) 120 million British thermal units per hour (MMBtu/hr) used or waste oil fuel fired burner, using natural gas and No. 2 distillate fuel oil as backup fuels, using a jetpulse baghouse as control and exhausting to stack S1.

Under NSPS Subpart I, this is considered an affected hot-mix asphalt facility.

- (b) Cold-mix (stockpile mix) asphalt storage piles.
- (c) Three (3) 30,000 gallon liquid asphalt storage tank, installed in 2004.
- (d) One (1) 21,800 gallon used or waste oil storage tank, installed in 2004.
- (e) One (1) 12,500 gallon No. 2 fuel oil storage tank, approved for installation in 2009.
- (f) One (1) aggregate cold feed system consisting of:
- (1) Two (2) aggregate conveyors;
 - (2) One (1) 5' X 12' aggregate screen; and
 - (3) Five (5) cold feed bins, **and approved in 2016 to add two (2) cold feed bins.**
- (g) Three (3) HMA silos, each with a capacity of 200 tons, constructed in 2007.
- (h) One (1) dust silo.
- (i) One (1) Reclaimed Asphalt Pavement (RAP) feed system consisting of:
- (1) Two (2) RAP feeder bins;
 - (2) One (1) RAP screen; and
 - (3) One (1) RAP conveyor.
- (j) One (1) 1,000 gallon heat transfer oil tank.
- (k) **One (1) tertiary crusher, approved in 2016 for construction, with a maximum throughput rate of 300 tons per hour, using water spray for fugitive particulate emissions control.**

Section B Changes:

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. **AllThe initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent** 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.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:~~

(a) If required by specific condition(s) in Section D of this permit, 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.

~~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.

- (e**b**) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. 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**c**) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

SECTION D.1 Changes:

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

D.1.3 Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

- (a) In order to render 326 IAC 2-2 not applicable, the amount of asphalt processed shall not exceed 500,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM emissions from the dryer/mixer shall not exceed ~~0.879~~ **0.876** pounds of PM per ton of asphalt processed.

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

D.1.4 Dryer and Mixer FESOP Minor Limits [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-3][326 IAC 2-1.1-5]
Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

- (a) The amount of asphalt processed shall not exceed 500,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM10 emissions from the dryer/mixer shall not exceed ~~0.360~~ **0.358** pounds per ton of asphalt processed.
- (c) The PM2.5 emissions from the dryer/mixer shall not exceed ~~0.378~~ **0.377** pounds per ton of asphalt produced
- (d) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.
- (e) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.

Compliance with these limitations, combined with the limited potential to emit from other emission units at this source, shall limit the source-wide total potential to emit PM10, PM2.5, CO and NOx to less than 100 tons per 12 consecutive month period. VOC emissions are limited to less than 25 tons per year (since this source is approved to relocate in Lake County) and shall render 326 IAC 2-7 (Part 70), 326 IAC 2-3, (Emission Offset), 326 IAC 8-1-6, 326 IAC 2.1.1-5 (Nonattainment New Source Review), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.5 Fuel Limitations [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following fuel limitations combusted in the dryer/mixer burner and all other combustion equipment:

- (a) Sulfur Content and used or waste oil Specifications
 - (1) The sulfur content of the slag shall not exceed 1.5 percent by weight.
 - (2) SO₂ emissions from the slag used in the dryer/mixer shall not exceed 0.74 pounds of SO₂ per ton of slag processed.
 - (3) The sulfur content of No.2 fuel oil shall not exceed 0.50 percent by weight.
 - (4) The sulfur content of the used or waste oil shall not exceed 0.66 percent by weight.
 - (5) The HCl emissions shall not exceed 13.2 pounds of HCl per 1,000 gallons of used or waste oil burned.
 - (6) The used or waste oil combusted shall not contain more than ~~0.50%~~ **1.0%** ash, 0.200% chlorine, and 0.01% Lead.
- (b) Pursuant to 326 IAC 2-8-4, the SO₂ emissions from the aggregate mixer/dryer burner shall be limited as follows:

- (1) The usage of **Blast Furnace Slag** shall not exceed 140,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) The usage of used or waste oil and used or waste oil equivalents for the aggregate dryer burner shall not exceed ~~900,000~~ **918,000** gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is equivalent to 99.0 tons/year of SO₂ emissions.

For the purpose of determining compliance with this limit:

- (A) Every 1.24 gallon of No. 2 fuel oil shall be equivalent to 1 gallon of used or waste oil based on SO₂ emissions. However, the used or waste oil and used or waste oil equivalent usage shall in no case exceed ~~900,000~~ **918,000** gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (B) Every 161.7 MMCF of natural gas shall be equivalent to 1,000 gallons of used or waste oil based on SO₂ emissions. However, the used or waste oil and used or waste oil equivalent usage shall in no case exceed ~~900,000~~ **918,000** gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

D.1.7 Volatile Organic Compounds (VOC) [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-3]

- (a) Pursuant to 326 IAC 2-8-4, the VOC solvent used as diluent in the liquid binder used in cold mix asphalt production from the plant shall not exceed 10.8 tons of VOC emissions are emitted per twelve (12) consecutive month period, with compliance determined at the end of each month. This shall be achieved by limiting the total VOC solvent of any one selected binder as follows.

When more than one binder is used, the formula in (6) must be applied so that the total VOC emitted is less than 10.8 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (1) Cut back asphalt rapid cure, containing a maximum of 25.3% of the liquid binder by weight of VOC solvent and 95% by weight of VOC solvent evaporating.

Cutback asphalt rapid cure liquid binder usage shall not exceed ~~44.3~~ **11.4** tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) Cut back asphalt medium cure, containing a maximum of 28.6% of the liquid binder by weight of VOC solvent and 70% by weight of VOC solvent evaporating.

Cutback asphalt medium cure liquid binder usage shall not exceed 15.4 tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (3) Cut back asphalt slow cure, containing a maximum of 20% of the liquid binder by weight of VOC solvent and 25% by weight of VOC solvent evaporating.

Cutback asphalt slow cure liquid binder usage shall not exceed ~~43~~ **43.2** tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (4) Emulsified asphalt with solvent, containing a maximum of 15% of liquid binder by weight of VOC solvent and 46.4% by weight of the VOC solvent in the liquid blend evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be 7% or less of the total emulsion by volume

Emulsified asphalt with solvent liquid binder usage shall not exceed ~~23.2~~ **23.3** tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

Other asphalt with solvent liquid binder shall not exceed ~~430.4~~ **432.0** tons of VOC solvent per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

D.1.10 Testing Requirements [326 IAC 2-8-5(a)(1),(4)][326 IAC 2-1.1-11]

~~In order to demonstrate compliance with Conditions D.1.1, D.1.2, D.1.3 and D.1.4, the Permittee shall perform PM, PM 2.5 and PM10 testing for dryer/mixer (Baghouse CD-1) within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM2.5), signed on May 8th, 2008, or five years from the most recent valid compliance test, whichever is later. This testing shall be conducted utilizing methods as 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 Section C - Performance Testing. PM10 and PM2.5 includes filterable and condensable PM.~~

In order to demonstrate compliance with Conditions D.1.1, D.1.2, D.1.3 and D.1.4, the Permittee shall perform PM, PM 2.5 and PM10 testing of the dryer/mixer (Baghouse CD-1), at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

SECTION E.1 Changes:

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS-NSPS

Emissions Unit Description: Hot-Mix Asphalt Plant

- (a) One (1) hot asphalt drum mixer capable of processing 400 tons per hour of raw material, equipped with one (1) 120 million British thermal units (MMBtu) per hour used or waste fuel fired burner, using natural gas and No. 2 distillate fuel oil as backup fuels, controlling particulate emissions with one (1) jetpulse baghouse, exhausting at one (1) stack, identified as S1;

[Under NSPS subpart I, this is considered an affected hot-mix asphalt facility].

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

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

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

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

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

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

E.2 **~~New Source Performance Standards (NSPS) Standard of Performance for (Hot Mix Asphalt Facilities) [40 CFR Part 60, Subpart I][326 IAC 12]~~**

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

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

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

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

Source Name: Walsh & Kelly, Inc.
 Initial Source Address: 21201 Wicker Avenue, Lowell, Indiana 46356
 FESOP Permit No.: F089-27021-05255

This form consists of 2 pages

Page 1 of 2

- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) **daytime** business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16

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

FESOP Quarterly Report

Source Name: Walsh and Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana 46356
 FESOP No.: F089-27021-05255
 Facility: 120 MMBtu per hour aggregate dryer burner
 Parameter: Used or waste oil usage limit to limit SO₂ emissions
 Limit: the usage of used or waste oil with a sulfur content of 0.66% and used or waste oil equivalents in the 120 MMBtu per hour burner for the aggregate dryer shall be limited to ~~900,000~~ **918,000** gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Used or waste oil and equivalent usage this month (gallons)	Used or waste oil and equivalent usage previous 11 months (gallons)	12 month total used or waste oil and equivalent usage (gallons)

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

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

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 January 27, 2016. Additional information was received on February 18 and 23, 2016.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Permit Revision No. 089-36770-05255. The staff recommends to the Commissioner that this FESOP Significant Permit Revision be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Aida DeGuzman at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-4972 or toll free at 1-800-451-6027 extension 3-4972.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Asphalt Plant Maximum Capacity - Drum Mix

Maximum Hourly Asphalt Production =	400	ton/hr									
Maximum Annual Asphalt Production =	3,504,000	ton/yr									
Maximum Annual Blast Furnace Slag Usage =	1,471,680	ton/yr	1.5	% sulfur							
Maximum Annual Steel Slag Usage =	1,471,680	ton/yr	0.66	% sulfur							
Maximum Dryer Fuel Input Rate =	120.0	MMBtu/hr									
Natural Gas Usage =	1,051	MMCF/yr									
No. 2 Fuel Oil Usage =	7,508,571	gal/yr, and	0.50	% sulfur							
No. 4 Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur							
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur							
Propane Usage =	0	gal/yr, and	0.20	gr/100 ft3 sulfur							
Butane Usage =	0	gal/yr, and	0.22	gr/100 ft3 sulfur							
Used/Waste Oil Usage =	7,508,571	gal/yr, and	0.66	% sulfur	1.00	% ash	0.200	% chlorine,	0.010	% lead	
Diesel Fuel Usage - Generator < 600 HP =	0	gal/yr, and									
Diesel Fuel Usage - Generator > 600 HP =	0	gal/yr	0.50	% sulfur							
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production									
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production									
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production									
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production									
Unlimited CO Dryer/Mixer Emission Factor =	0.13	lb/ton of asphalt production									
Unlimited Blast Furnace Slag SO2 Dryer/Mixer Emission Factor =	0.74	lb/ton of slag processed									
Unlimited Steel Slag SO2 Dryer/Mixer Emission Factor =	0.0014	lb/ton of slag processed									

Unlimited/Uncontrolled Emissions

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO _{2e}	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	240.27	191.47	191.47	364.24	99.86	3.75	44.15	84,853.28	53.81	49.56 (hydrogen chloride)
Dryer/Mixer (Process)	49,056.00	11,388.00	2,628.00	101.62	96.36	56.06	227.76	58,341.60	18.68	5.43 (formaldehyde)
Dryer/Mixer Slag Processing (worst case)	0	0	0	544.52	0	0	0	0.00	0	0
Hot Oil Heater Fuel Combustion/Process (worst case)	0.08	0.12	0.12	2.67	0.75	0.03	0.44	1,051.20	0.012	0.009 (hexane)
Diesel-Fired Generator < 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000 (formaldehyde)
Diesel-Fired Generator > 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000 (benzene)
Worst Case Emissions*	49,056.08	11,388.12	2,628.12	911.43	100.61	56.09	228.20	85,904.48	53.82	49.56 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	1.94	1.94	1.94	0	0	30.01	5.05	0	0.50	0.16 (formaldehyde)
Material Storage Piles	2.41	0.84	0.84	0	0	0	0	0	0	0
Material Processing and Handling	11.32	5.35	0.81	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	55.59	20.31	20.31	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	124.42	31.71	3.17	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	42,109.32	0	0	10,983.67	3,789.84 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0	0.00	0.00 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0
Total Fugitive Emissions	195.69	60.16	27.07	0.00	0.00	42,139.33	5.05	0.00	10,984.17	3,789.84 (xylenes)
Totals Unlimited/Uncontrolled PTE	49,251.76	11,448.28	2,655.20	911.43	100.61	42,195.42	233.25	85,904.48	11,037.99	3,789.84 (xylenes)

negl = negligible

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

*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Worst Case Emissions From Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion and Hot Oil Heating

System + Diesel-Fired Generator < 600 HP + Diesel-Fired Generator > 600 HP

Fuel component percentages provided by the source.

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

Maximum Capacity

Maximum Fuel Input Rate =	120	MMBtu/hr
Natural Gas Usage =	1,051	MMCF/yr
No. 2 Fuel Oil Usage =	7,508,571	gal/yr, and
No. 4 Fuel Oil Usage =	0	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and
Propane Usage =	0	gal/yr, and
Butane Usage =	0	gal/yr, and
Used/Waste Oil Usage =	7,508,571	gal/yr, and
	0.50	% sulfur
	0.50	% sulfur
	0.50	% sulfur
	0.20	gr/100 ft3 sulfur
	0.22	gr/100 ft3 sulfur
	0.66	% sulfur
	1.00	% ash
	0.200	% chlorine
	0.010	% lead

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/ Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	7.0	7.815	0.5	0.6	64.0	1.00	7.51	0.00	0.00	0.000	0.000	240.27	240.27
PM10/PM2.5	7.6	3.3	8.3	9.315	0.5	0.6	51	3.99	12.39	0.00	0.00	0.000	0.000	191.47	191.47
SO2	0.6	71.0	75.0	78.5	0.020	0.020	97.0	0.32	266.55	0.00	0.00	0.000	0.000	364.24	364.24
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	99.86	90.10	0.00	0.00	0.00	0.00	71.33	99.86
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.89	0.75	0.00	0.00	0.00	0.00	3.75	3.75
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	44.1504	18.77	0.00	0.00	0.00	0.00	18.77	44.15
Hazardous Air Pollutant															
HCl							13.2							49.56	49.56
Antimony			5.25E-03	5.25E-03			neq1			0.00E+00	0.00E+00			neq1	0.0E+00
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	1.1E-04	2.10E-03	0.00E+00	0.00E+00			4.13E-01	4.1E-01
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			neq1	6.3E-06	1.58E-03	0.00E+00	0.00E+00			neq1	1.6E-03
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	5.8E-04	1.58E-03	0.00E+00	0.00E+00			3.49E-02	3.5E-02
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	7.4E-04	1.58E-03	0.00E+00	0.00E+00			7.51E-02	7.5E-02
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	4.4E-05		0.00E+00	0.00E+00			7.88E-04	7.9E-04
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.6E-04	4.73E-03	0.00E+00	0.00E+00			2.1E+00	2.06
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	2.0E-04	3.15E-03	0.00E+00	0.00E+00			2.55E-01	0.26
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04			1.4E-04	1.58E-03	0.00E+00	0.00E+00				1.6E-03	0.04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	1.1E-03	1.58E-03	0.00E+00	0.00E+00			4.13E-02	0.04
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			neq1	1.3E-05	7.88E-03	0.00E+00	0.00E+00			neq1	7.9E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						0.00E+00	0.00E+00				0.0E+00
1,3-Butadiene										0.00E+00	0.00E+00				0.0E+00
Acetaldehyde															0.0E+00
Acrolein															0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				1.1E-03		0.00E+00	0.00E+00				1.1E-03
Bis(2-ethylhexyl)phthalate							2.2E-03							8.26E-03	8.3E-03
Dichlorobenzene	1.2E-03						8.0E-07	6.3E-04						3.00E-06	6.3E-04
Ethylbenzene			6.36E-05	6.36E-05						0.00E+00	0.00E+00				0.0E+00
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.9E-02	2.29E-01	0.00E+00	0.00E+00				0.229
Hexane	1.8E+00							0.95							0.946
Phenol							2.4E-03							9.01E-03	9.0E-03
Toluene	3.4E-03		6.20E-03	6.20E-03				1.8E-03		0.00E+00	0.00E+00				1.8E-03
Total PAH Haps	neq1		1.13E-03	1.13E-03			3.9E-02	neq1		0.00E+00	0.00E+00			1.47E-01	1.5E-01
Polycyclic Organic Matter		3.30E-03							1.24E-02						1.2E-02
Xylene			1.09E-04	1.09E-04						0.00E+00	0.00E+00				0.0E+00
Total HAPs								0.99	0.27	0.00	0.00	0	0	52.61	53.81

Methodology

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

Abbreviations

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

HCl = Hydrogen Chloride
 PAH = Polyaromatic Hydrocarbon

*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

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

Company Name: Walsh & Kelly, Inc.
Source Address: 21201 Wicker Avenue, Lowell, Indiana
Permit Number: F089-27021-05255
SPR No.: 089-36770-05255
Reviewer: Aida DeGuzman

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

Maximum Capacity	
Maximum Fuel Input Rate =	120 MMBtu/hr
Natural Gas Usage =	1,051 MMCF/yr
No. 2 Fuel Oil Usage =	7,508.571 gal/yr, and
No. 4 Fuel Oil Usage =	0 gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage =	0 gal/yr, and
Propane Usage =	0 gal/yr, and
Butane Usage =	0 gal/yr, and
Used/Waste Oil Usage =	7,508.571 gal/yr, and
	0.50 % sulfur
	0.50 % sulfur
	0.50 % sulfur
	0.20 gr/100 ft3 sulfur
	0.22 gr/100 ft3 sulfur
	0.66 % sulfur
	1.00 % ash
	0.200 % chlorine,
	0.010 % lead

CO ₂ e Fraction	Emission Factor (units)							Global Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO ₂	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO ₂	1
CH ₄	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	25
N ₂ O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N ₂ O	298

CO ₂ e Fraction	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)
CO ₂	63,157.06	84,476.72	0.00	0.00	0.00	0.00	82,684.97
CH ₄	1.31	3.43	0.00	0.00	0.00	0.00	3.35
N ₂ O	1.16	0.98	0.00	0.00	0.00	0.00	0.68
Total	63,159.53	84,481.13	0.00	0.00	0.00	0.00	82,688.99

CO₂e for Worst Case Fuel* (tons/yr)
84,853.28

CO ₂ e Equivalent Emissions (tons/yr)	63,534.41	84,853.28	0.00	0.00	0.00	0.00	82,970.15
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Methodology

Fuel Usage from TSD Appendix A.1, page 1 of 14.
 Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]
 Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Abbreviations

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

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

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

No. 2, No. 4, and Residual (No. 5 or No. 6) Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 5/10), Table 1.3-8

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

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

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

Emission Factor (EF) Conversions:

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

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

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

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

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

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

Maximum Hourly Asphalt Production = 400 ton/hr
 Maximum Annual Asphalt Production = 3,504,000 ton/yr

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	28	28	28	49056	49056	49056	49056
PM10*	6.5	6.5	6.5	11388	11388	11388	11388
PM2.5*	1.5	1.5	1.5	2628	2628	2628	2628
SO2**	0.0034	0.011	0.058	6.0	19.3	101.6	101.6
NOx**	0.026	0.055	0.055	45.6	96.4	96.4	96.4
VOC**	0.032	0.032	0.032	56.1	56.1	56.1	56.1
CO***	0.13	0.13	0.13	227.8	227.8	227.8	227.8
Hazardous Air Pollutant							
HCl			2.10E-04			3.68E-01	0.37
Antimony	1.80E-07	1.80E-07	1.80E-07	3.15E-04	3.15E-04	3.15E-04	3.15E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	9.81E-04	9.81E-04	9.81E-04	9.81E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	7.18E-04	7.18E-04	7.18E-04	7.18E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	9.64E-03	9.64E-03	9.64E-03	9.64E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	4.56E-05	4.56E-05	4.56E-05	4.56E-05
Lead	6.20E-07	1.50E-05	1.50E-05	1.09E-03	2.63E-02	2.63E-02	2.63E-02
Manganese	7.70E-06	7.70E-06	7.70E-06	1.35E-02	1.35E-02	1.35E-02	1.35E-02
Mercury	2.40E-07	2.60E-06	2.60E-06	4.20E-04	4.56E-03	4.56E-03	4.56E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	0.11	0.11	0.11	0.11
Selenium	3.50E-07	3.50E-07	3.50E-07	6.13E-04	6.13E-04	6.13E-04	6.13E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.07	0.07	0.07	0.07
Acetaldehyde			1.30E-03			2.28	2.28
Acrolein			2.60E-05			4.56E-02	4.56E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.68	0.68	0.68	0.68
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.42	0.42	0.42	0.42
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	5.43	5.43	5.43	5.43
Hexane	9.20E-04	9.20E-04	9.20E-04	1.61	1.61	1.61	1.61
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.08	0.08	0.08	0.08
MEK			2.00E-05			0.04	0.04
Propionaldehyde			1.30E-04			0.23	0.23
Quinone			1.60E-04			0.28	0.28
Toluene	1.50E-04	2.90E-03	2.90E-03	0.26	5.08	5.08	5.08
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.33	1.54	1.54	1.54
Xylene	2.00E-04	2.00E-04	2.00E-04	0.35	0.35	0.35	0.35
Total HAPs							18.68
Worst Single HAP							5.43 (formaldehyde)

Methodology

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

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

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

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

Maximum Hourly Asphalt Production = 400 ton/hr
 Maximum Annual Asphalt Production = 3,504,000 ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO ₂ e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO ₂	33	33	33	1	57,816.00	57,816.00	57,816.00	58,341.60
CH ₄	0.0120	0.0120	0.0120	25	21.02	21.02	21.02	
N ₂ O				298	0	0	0	
Total					57,837.02	57,837.02	57,837.02	
CO₂e Equivalent Emissions (tons/yr)					58,341.60	58,341.60	58,341.60	

Methodology

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

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

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

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

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

Maximum Annual Blast Furnace Slag Usage = $\frac{1,471,680}{1,471,680}$ ton/yr $\frac{1.5}{0.66}$ % sulfur
 Maximum Annual Steel Slag Usage = $\frac{1,471,680}{1,471,680}$ ton/yr % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Unlimited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	0.74	544.5
Steel Slag**	0.0014	1.03

Methodology

The maximum annual slag usage was provided by the source.

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

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

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

Abbreviations

SO2 = Sulfur Dioxide

**Appendix A.1: Unlimited Emissions Calculations
Hot Oil Heater
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr
 Natural Gas Usage = 10.51 MMCF/yr
 No. 2 Fuel Oil Usage = 75.086 gal/yr, and 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0.010	0.075	0.08
PM10/PM2.5	7.6	3.3	0.040	0.124	0.12
SO2	0.6	71.0	0.003	2.666	2.67
NOx	100	20.0	0.526	0.751	0.75
VOC	5.5	0.20	0.029	0.008	0.03
CO	84	5.0	0.442	0.188	0.44
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.1E-06	2.10E-05	2.1E-05
Beryllium	1.2E-05	4.2E-04	6.3E-08	1.58E-05	1.6E-05
Cadmium	1.1E-03	4.2E-04	5.8E-06	1.58E-05	1.6E-05
Chromium	1.4E-03	4.2E-04	7.4E-06	1.58E-05	1.6E-05
Cobalt	8.4E-05		4.4E-07		4.4E-07
Lead	5.0E-04	1.3E-03	2.6E-06	4.73E-05	4.7E-05
Manganese	3.8E-04	8.4E-04	2.0E-06	3.15E-05	3.2E-05
Mercury	2.6E-04	4.2E-04	1.4E-06	1.58E-05	1.6E-05
Nickel	2.1E-03	4.2E-04	1.1E-05	1.58E-05	1.6E-05
Selenium	2.4E-05	2.1E-03	1.3E-07	7.88E-05	7.9E-05
Benzene	2.1E-03		1.1E-05		1.1E-05
Dichlorobenzene	1.2E-03		6.3E-06		6.3E-06
Ethylbenzene					0.0E+00
Formaldehyde	7.5E-02	6.10E-02	3.9E-04	2.29E-03	2.3E-03
Hexane	1.8E+00		9.5E-03		9.5E-03
Phenol					0.0E+00
Toluene	3.4E-03		1.8E-05		1.8E-05
Total PAH Haps	negl		negl		0.0E+00
Polycyclic Organic Matter		3.30E-03		1.24E-04	1.2E-04

Total HAPs = 9.9E-03 2.7E-03 0.012
Worst Single HAP = 9.5E-03 2.3E-03 9.5E-03
 (Hexane) (Formaldehyde) (Hexane)

Methodology

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

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

Abbreviations

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

**Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO₂e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr
 Natural Gas Usage = 10.51 MMCF/yr
 No. 2 Fuel Oil Usage = 75,085.71 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO ₂	120,161.84	22,501.41	1	631.57	844.77
CH ₄	2.49	0.91	25	0.01	0.03
N ₂ O	2.2	0.26	298	0.01	0.01
				631.60	844.81

Worse Case CO ₂ e Emissions (tons/yr)
848.53

CO ₂ e Equivalent Emissions (tons/yr)	635.34	848.53

Methodology

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

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

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

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

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

No. 2 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 5/10), Table 1.3-8

Emission Factor (EF) Conversions

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

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

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

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

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

Abbreviations

CO₂ = Carbon Dioxide
 CH₄ = Methane

N₂O = Nitrogen Dioxide
 PTE = Potential to Emit

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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 =

1.20

 MMBtu/hr
 Natural Gas Usage =

10.51

 MMCF/yr, and
 No. 2 Fuel Oil Usage =

75,085.71

 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE	
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil		
VOC	2.60E-08	2.65E-05	1.37E-04	0.001		0.001
CO	8.90E-06	0.0012	0.047	0.045		0.047
Greenhouse Gas as CO2e*						
CO2	0.20	28.00	1051.20	1051.20		1051.20
Hazardous Air Pollutant						
Formaldehyde	2.60E-08	3.50E-06	1.37E-04	1.31E-04		1.37E-04
Acenaphthene		5.30E-07		1.99E-05		1.99E-05
Acenaphthylene		2.00E-07		7.51E-06		7.51E-06
Anthracene		1.80E-07		6.76E-06		6.76E-06
Benzo(b)fluoranthene		1.00E-07		3.75E-06		3.75E-06
Fluoranthene		4.40E-08		1.65E-06		1.65E-06
Fluorene		3.20E-08		1.20E-06		1.20E-06
Naphthalene		1.70E-05		6.38E-04		6.38E-04
Phenanthrene		4.90E-06		1.84E-04		1.84E-04
Pyrene		3.20E-08		1.20E-06		1.20E-06

Total HAPs 1.00E-03
Worst Single HAP 6.38E-04 (Naphthalene)

Methodology

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

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 21201 Wicker Avenue, Lowell, Indiana
Permit Number: F089-27021-05255
SPR No.: 089-36770-05255
Reviewer: Aida DeGuzman

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

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

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

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

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

Hazardous Air Pollutants (HAPs)

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

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

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

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

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

Green House Gas Emissions (GHG)

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

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

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

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

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

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

Methodology

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

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

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

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

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

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

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

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

Sulfur Content (S) of Fuel (% by weight) **0.50**

	Pollutant						
	PM	PM10 ²	direct PM2.5 ²	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04			4.05E-03 (.00809S)	2.40E-02	7.05E-04	5.50E-03
Emission Factor in lb/MMBtu		0.0573	0.0573				
Emission Factor in lb/kgal ¹	13.70	7.85	7.85	79.18	469.82	13.80	107.67
Potential Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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.

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

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

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

Hazardous Air Pollutants (HAPs)

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

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

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

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

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

Green House Gas Emissions (GHG)

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

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.

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

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

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

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

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

Methodology

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

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

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

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

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

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

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

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

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	3,504,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.91	1.03	NA	1.94
Organic PM	3.4E-04	2.5E-04	NA	0.60	0.445	NA	1.04
TOC	0.004	0.012	0.001	7.29	21.35	1.927	30.6
CO	0.001	0.001	3.5E-04	2.36	2.067	0.617	5.05

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

PM/HAPs	0.042	0.050	0	0.093
VOC/HAPs	0.108	0.272	0.028	0.408
non-VOC/HAPs	5.6E-04	5.8E-05	1.5E-04	7.7E-04
non-VOC/non-HAPs	0.53	0.30	0.14	0.97

Total VOCs	6.85	21.35	1.8	30.0
Total HAPs	0.15	0.32	0.029	0.50
		Worst Single HAP		0.155
				(formaldehyde)

Methodology

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

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

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

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

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

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

TOC Ef = 0.0172(-V)e^γ((0.0251)(T+460)-20.43)

CO Ef = 0.00558(-V)e^γ((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^γ((0.0251)(T+460)-20.43)

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

TOC Ef = 0.0504(-V)e^γ((0.0251)(T+460)-20.43)

CO Ef = 0.00488(-V)e^γ((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: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	1.6E-03	2.1E-03	NA	3.6E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	1.7E-04	6.2E-05	NA	2.3E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	4.2E-04	5.8E-04	NA	1.0E-03
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	1.1E-04	2.5E-04	NA	3.6E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	4.5E-05	0	NA	4.5E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	1.3E-05	0	NA	1.3E-05
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	1.1E-05	0	NA	1.1E-05
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	1.4E-05	0	NA	1.4E-05
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	4.7E-05	4.2E-05	NA	8.9E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	6.2E-04	9.3E-04	NA	1.5E-03
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	2.2E-06	0	NA	2.2E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	3.0E-04		NA	3.0E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	4.6E-03	4.5E-03	NA	9.1E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	2.8E-06	0	NA	2.8E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	1.4E-02	2.3E-02	NA	0.038
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	7.5E-03	8.1E-03	NA	1.6E-02
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	1.3E-04	1.3E-04	NA	2.6E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	4.8E-03	8.0E-03	NA	1.3E-02
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	9.0E-04	2.0E-03	NA	2.9E-03
Total PAH HAPs							0.035	0.050	NA	0.086
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	7.0E-03	0	0	7.0E-03

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

Methodology

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

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

Abbreviations

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	6.85	21.35	1.81	30.01
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	4.7E-01	5.6E-02	1.3E-01	0.654
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	3.4E-03	1.2E-02	8.9E-04	0.016
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	5.2E-02	2.3E-01	1.4E-02	0.300
Total non-VOC/non-HAPS					7.30%	1.40%	0.532	0.299	0.141	0.97
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	3.8E-03	6.8E-03	1.0E-03	1.2E-02
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	7.0E-04	1.0E-03	1.9E-04	1.9E-03
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	3.6E-03	8.3E-03	9.4E-04	1.3E-02
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	9.5E-04	3.4E-03	2.5E-04	4.6E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	1.5E-05	8.5E-04	4.0E-06	8.7E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	1.1E-03	4.9E-03	2.9E-04	6.3E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	8.0E-03	0	2.1E-03	1.0E-02
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	2.0E-02	8.1E-03	5.4E-03	0.034
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	6.4E-03	1.5E-01	1.7E-03	0.155
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	1.1E-02	2.1E-02	2.9E-03	0.035
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	1.3E-04	6.6E-05	3.5E-05	2.3E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	5.8E-05	0	5.8E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	5.3E-04	1.2E-03	1.4E-04	1.8E-03
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	5.6E-04	0	1.5E-04	7.1E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	1.5E-02	1.3E-02	4.0E-03	0.033
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	9.5E-05	0	2.5E-05	1.2E-04
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	3.0E-02	4.3E-02	7.9E-03	0.080
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	5.8E-03	1.2E-02	1.5E-03	2.0E-02
Total volatile organic HAPs					1.50%	1.30%	0.109	0.278	0.029	0.416

Methodology

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.50	0.275	0.096
Limestone	1.6	1.85	3.00	1.014	0.355
RAP	0.5	0.58	2.00	0.211	0.074
Gravel	1.6	1.85	0.25	0.084	0.030
Shingles	0.5	0.58	0.25	0.026	0.009
Slag	3.8	4.40	1.00	0.803	0.281
Totals				2.41	0.84

Methodology

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

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

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

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

PM2.5 = PM10

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

RAP = Recycled Asphalt Pavement

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

Company Name: Walsh & Kelly, Inc.
Source Address: 21201 Wicker Avenue, Lowell, Indiana
Permit Number: F089-27021-05255
SPR No.: 089-36770-05255
Reviewer: Aida DeGuzman

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

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

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

where: E_f = Emission factor (lb/ton)

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

Maximum Annual Asphalt Production = 3,504,000 tons/yr
Percent Asphalt Cement/Binder (weight %) = 5.0%
Maximum Material Handling Throughput = 3,328,800 tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	3.77	1.78	0.27
Front-end loader dumping of materials into feeder bins	3.77	1.78	0.27
Conveyor dropping material into dryer/mixer or batch tower	3.77	1.78	0.27
Total (tons/yr)	11.32	5.35	0.81

Methodology

The percent asphalt cement/binder provided by the source.

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

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

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

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

Material Screening and Conveying (AP-42 Section 11.19.2)

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	8.99	3.99
Screening	0.025	0.0087	41.61	14.48
Conveying	0.003	0.0011	4.99	1.83
Unlimited Potential to Emit (tons/yr) =			55.59	20.31

Methodology

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

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

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

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

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

**Assumes PM10 = PM2.5

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 μ m)

PM2.5 = Particulate matter (< 2.5 μ m)

PTE = Potential to Emit

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Unpaved Roads at Industrial Site

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

Maximum Annual Asphalt Production = 3,504,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 3,328,800 tons/yr
 Maximum Asphalt Cement/Binder Throughput = 175,200 tons/yr
 Maximum No. 2 Fuel Oil Usage = 7,508,571 gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	1.5E+05	5.9E+06	300	0.057	8443.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	300	0.057	8443.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	4.9E+03	2.3E+05	300	0.057	276.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	4.9E+03	5.8E+04	300	0.057	276.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	7.9E+02	3.5E+04	300	0.057	45.1
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	7.9E+02	9.5E+03	300	0.057	45.1
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	7.9E+05	1.5E+07	300	0.057	45032.5
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	7.9E+05	1.2E+07	300	0.057	45032.5
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.5E+05	6.0E+06	300	0.057	8295.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	300	0.057	8295.5
Total					2.2E+06	4.4E+07			1.2E+05

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

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

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

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

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	25.73	6.56	0.66	16.92	4.31	0.43	8.46	2.16	0.22
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	25.73	6.56	0.66	16.92	4.31	0.43	8.46	2.16	0.22
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.843	0.215	0.02	0.554	0.141	0.01	0.277	0.071	0.01
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.843	0.215	0.02	0.554	0.141	0.01	0.277	0.071	0.01
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.137	0.035	0.00	0.090	0.023	0.00	0.045	0.012	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.137	0.035	0.00	0.090	0.023	0.00	0.045	0.012	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	137.23	34.98	3.50	90.24	23.00	2.30	45.12	11.50	1.15
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	137.23	34.98	3.50	90.24	23.00	2.30	45.12	11.50	1.15
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	25.28	6.44	0.64	16.62	4.24	0.42	8.31	2.12	0.21
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	25.28	6.44	0.64	16.62	4.24	0.42	8.31	2.12	0.21
Totals		378.45	96.45	9.65	248.84	63.42	6.34	124.42	31.71	3.17

Methodology

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Paved Roads at Industrial Site

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

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,328,800	tons/yr
Maximum Asphalt Cement/Binder Throughput =	175,200	tons/yr
Maximum No. 2 Fuel Oil Usage =	7,508,571	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	1.5E+05	5.9E+06	300	0.057	8443.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	300	0.057	8443.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	4.9E+03	2.3E+05	300	0.057	276.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	4.9E+03	5.8E+04	300	0.057	276.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	7.9E+02	3.5E+04	300	0.057	45.1
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	7.9E+02	9.5E+03	300	0.057	45.1
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	7.9E+05	1.5E+07	300	0.057	45032.5
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	7.9E+05	1.2E+07	300	0.057	45032.5
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	1.5E+05	6.0E+06	300	0.057	8295.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	300	0.057	8295.5
Total					2.2E+06	4.4E+07			1.2E+05

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

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

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

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

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.63	0.13	0.03	0.57	0.11	0.03	0.29	0.06	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.63	0.13	0.03	0.57	0.11	0.03	0.29	0.06	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.021	0.004	1.0E-03	0.019	0.004	9.2E-04	0.009	1.9E-03	4.6E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.021	0.004	1.0E-03	0.019	0.004	9.2E-04	0.009	1.9E-03	4.6E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	3.4E-03	6.7E-04	1.6E-04	3.1E-03	6.1E-04	1.5E-04	1.5E-03	3.1E-04	7.5E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	3.4E-03	6.7E-04	1.6E-04	3.1E-03	6.1E-04	1.5E-04	1.5E-03	3.1E-04	7.5E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	3.35	0.67	0.16	3.06	0.61	0.15	1.53	0.31	0.08
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	3.35	0.67	0.16	3.06	0.61	0.15	1.53	0.31	0.08
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.62	0.12	0.03	0.56	0.11	0.03	0.28	0.06	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.62	0.12	0.03	0.56	0.11	0.03	0.28	0.06	0.01
Totals		9.23	1.85	0.45	8.44	1.69	0.41	4.22	0.84	0.21

Methodology

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

Maximum Annual Asphalt Production = 3,504,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Asphalt Cement/Binder Throughput = 175,200 tons/yr

Volatle Organic Compounds

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Usage (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	44,325.6	42,109.3
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	50,107.2	35,075.0
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	35,040.0	8,760.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	26,280.0	12,193.9
Other asphalt with solvent binder	25.9%	2.5%	45,376.8	1,134.4
Worst Case PTE of VOC =				42,109.3

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
PTE of Total HAPs (tons/yr) =	10,983.67
PTE of Single HAP (tons/yr) =	3,789.84 Xylenes

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

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

Methodology

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

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

Abbreviations

VOC = Volatile Organic Compounds
 PTE = Potential to Emit

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

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

Volatile Organic Compounds

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

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
Limited PTE of Total HAPs (tons/yr) =	0.00
Limited PTE of Single HAP (tons/yr) =	0.00 Xylenes

Methodology

The gasoline throughput was provided by the source.

Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] * [365 days/yr] * [kgal/1000 gal]

PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]

PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]

PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]

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

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Asphalt Plant Limitations - Drum Mix

Maximum Hourly Asphalt Production =	400	ton/hr								
Annual Asphalt Production Limitation =	500,000	ton/yr								
Blast Furnace Slag Usage Limitation =	140,000	ton/yr	1.50	% sulfur						
Steel Slag Usage Limitation =	1,471,680		0.66	% sulfur						
Maximum Dryer Fuel Input Rate =	120	MMBtu/hr								
Natural Gas Limitation =	1,034.20	MMCF/yr								
No. 2 Fuel Oil Limitation =	1,254,492	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur						
Propane Limitation =	0	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Limitation =	0	gal/yr, and	0.22	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	918,047	gal/yr, and	0.66	% sulfur	1.00	% ash	0.200	% chlorine,	0.010	% lead
Diesel Fuel Limitation - Generator < 600 HP =	0	gal/yr, and								
Diesel Fuel Limitation - Generator > 600 HP =	0	gal/yr	0.50	% sulfur						
PM Dryer/Mixer Limitation =	0.876	lb/ton of asphalt production								
PM10 Dryer/Mixer Limitation =	0.358	lb/ton of asphalt production								
PM2.5 Dryer/Mixer Limitation =	0.377	lb/ton of asphalt production								
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production								
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production								
Blast Furnace Slag SO2 Dryer/Mixer Limitation =	0.740	lb/ton of slag processed								
Steel Slag SO2 Dryer/Mixer Limitation =	0.0014	lb/ton of slag processed								
Cold Mix Asphalt VOC Limitation =	10.8	tons/yr								
HCl Limitation =	13.2	lb/kgal								

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO2e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	29.38	23.41	23.41	44.53	98.25	2.84	43.44	62,507.02	7.41	6.06 (hydrogen chloride)
Dryer/Mixer (Process)	218.93	89.57	94.29	14.50	13.75	8.00	32.50	8,325	2.66	0.78 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	51.80	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion/Process (worst case)	0.08	0.12	0.12	2.67	0.75	0.03	0.44	1,051.20	0.01	0.009 (hexane)
Diesel-Fired Generator < 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000 (formaldehyde)
Diesel-Fired Generator > 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000 (benzene)
Worst Case Emissions*	219.01	89.69	94.41	99.00	99.00	8.03	43.88	63,558.22	7.42	6.06 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.28	0.28	0.28	0	0	4.28	0.72	0	0.07	0.02 (formaldehyde)
Material Storage Piles	2.41	0.84	0.84	0	0	0	0	0	0	0
Material Processing and Handling	1.62	0.76	0.12	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	7.93	2.90	2.90	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	17.76	4.53	0.45	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	10.80	0	0	2.82	0.97 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0	0.00	0.00 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	negl
Total Fugitive Emissions	29.99	9.31	4.59	0	0	15.08	0.72	0.00	2.89	0.97 (xylenes)
Totals Limited/Controlled Emissions	249.00	99.00	99.00	99.00	99.00	23.11	44.60	63,558.22	10.31	6.06 (xylenes)

negl = negligible

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

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

Fuel component percentages provided by the source.

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

Company Name: Walsh & Kelly, Inc.
Source Address: 21201 Wicker Avenue, Lowell, Indiana
Permit Number: F089-27021-05255
SPR No.: 089-36770-05255
Reviewer: Aida DeGuzman

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

Fuel Limitations

Maximum Fuel Input Rate =	120	MMBtu/hr
Natural Gas Limitation =	1,034	MMCF/yr
No. 2 Fuel Oil Limitation =	1,254,492	gal/yr, and
	0.50	% sulfur
No. 4 Fuel Oil Limitation =	0	gal/yr, and
	0.50	% sulfur
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and
	0.50	% sulfur
Propane Limitation =	0	gal/yr, and
	0.20	gr/100 ft3 sulfur
Butane Limitation =	0	gal/yr, and
	0.22	gr/100 ft3 sulfur
Used/Waste Oil Limitation =	918,047	gal/yr, and
	0.66	% sulfur
	1.00	% ash
	0.200	% chlorine
	0.010	% lead

Limited Emissions

Criteria Pollutant	Emission Factor (units)								Limited Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)	
PM	1.9	2	7	7.815	0.5	0.6	64	0.98	1.25	0.00	0.00	0.000	0.000	29.38	29.38	
PM10/PM2.5	7.6	3.3	8.3	9.315	0.5	0.6	51	3.93	2.07	0.00	0.00	0.000	0.000	23.41	23.41	
SO2	0.6	71.0	75.0	78.5	0.020	0.020	97.0	0.31	44.53	0.00	0.00	0.000	0.000	44.53	44.53	
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	98.25	15.05	0.00	0.00	0.00	0.00	8.72	98.25	
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.84	0.13	0.00	0.00	0.00	0.00	0.46	2.84	
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	43.44	3.14	0.00	0.00	0.00	0.00	2.30	43.44	
Hazardous Air Pollutant																
HCl							13.2							6.06	6.06	
Antimony			5.25E-03	5.25E-03			negl			0.00E+00	0.00E+00			negl	0.0E+00	
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	1.0E-04	3.51E-04	0.00E+00	0.00E+00			5.05E-02	5.0E-02	
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	6.2E-06	2.63E-04	0.00E+00	0.00E+00			negl	2.6E-04	
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	5.7E-04	2.63E-04	0.00E+00	0.00E+00			4.27E-03	4.3E-03	
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	7.2E-04	2.63E-04	0.00E+00	0.00E+00			9.18E-03	9.2E-03	
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	4.3E-05		0.00E+00	0.00E+00			9.64E-05	9.6E-05	
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.6E-04	7.90E-04	0.00E+00	0.00E+00			2.5E-01	0.25	
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	2.0E-04	5.27E-04	0.00E+00	0.00E+00			3.12E-02	0.03	
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.3E-04	2.63E-04	0.00E+00	0.00E+00				2.6E-04	
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	1.1E-03	2.63E-04	0.00E+00	0.00E+00			5.05E-03	0.005	
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.2E-05	1.32E-03	0.00E+00	0.00E+00			negl	1.3E-03	
1,1,1-Trichloroethane			2.36E-04	2.36E-04						0.00E+00	0.00E+00				0.0E+00	
1,3-Butadiene															0.0E+00	
Acetaldehyde															0.0E+00	
Acrolein															0.0E+00	
Benzene	2.1E-03		2.14E-04	2.14E-04				1.1E-03		0.00E+00	0.00E+00				1.1E-03	
Bis(2-ethylhexyl)phthalate							2.2E-03							1.01E-03	1.0E-03	
Dichlorobenzene	1.2E-03						8.0E-07	6.2E-04						3.67E-07	6.2E-04	
Ethylbenzene			6.36E-05	6.36E-05						0.00E+00	0.00E+00				0.0E+00	
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.9E-02	3.83E-02	0.00E+00	0.00E+00				0.039	
Hexane	1.8E+00							0.93							0.931	
Phenol							2.4E-03							1.10E-03	1.1E-03	
Toluene	3.4E-03		6.20E-03	6.20E-03				1.8E-03		0.00E+00	0.00E+00				1.8E-03	
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0.00E+00	0.00E+00			1.79E-02	1.8E-02	
Polycyclic Organic Matter		3.30E-03								2.07E-03					2.1E-03	
Xylene			1.09E-04	1.09E-04						0.00E+00	0.00E+00				0.0E+00	
Total HAPs								0.98	0.04	0.00	0.00	0	0	6.43	7.41	

Methodology

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
 Sources of AP-42 Emission Factors for fuel combustion:
 Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
 Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

Abbreviations

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

*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: Walsh & Kelly, Inc.
Source Address: 21201 Wicker Avenue, Lowell, Indiana
Permit Number: F089-27021-05255
SPR No.: 089-36770-05255
Reviewer: Aida DeGuzman

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

Fuel Limitations

Maximum Fuel Input Rate =	120	MMBtu/hr						
Natural Gas Limitation =	1,034	MMCF/yr						
No. 2 Fuel Oil Limitation =	1,254,492	gal/yr, and	0.50	% sulfur				
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur				
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur				
Propane Limitation =	0	gal/yr, and	0.20	gr/100 ft3 sulfur				
Butane Limitation =	0	gal/yr, and	0.22	gr/100 ft3 sulfur				
Used/Waste Oil Limitation =	918,047	gal/yr, and	0.66	% sulfur	1.00	% ash	0.200	% chlorine, 0.010 % lead

Limited Emissions

CO ₂ e Fraction	Emission Factor (units)							Global Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO ₂	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO ₂	1
CH ₄	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	25
N ₂ O	2.20	0.26	0.19	0.53	0.90	0.90	0.18	Nitrous oxide	N ₂ O	298

CO ₂ e Fraction	Limited Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO ₂	62,135.78	14,113.92	0.00	0.00	0.00	0.00	10,109.60
CH ₄	1.29	0.57	0.00	0.00	0.00	0.00	0.41
N ₂ O	1.14	0.16	0.00	0.00	0.00	0.00	0.08
Total	62,138.21	14,114.65	0.00	0.00	0.00	0.00	10,110.10
CO₂e Equivalent Emissions (tons/yr)	62,507.02	14,176.83	0.00	0.00	0.00	0.00	10,144.47

CO₂e for Worst Case Fuel* (tons/yr)
62,507.02

Methodology

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

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

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

Natural Gas: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N₂O from AP-42 No. 2, No. 4, and Residual (No. 5 or No. 6) Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 5/10), Table 1.3-8

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

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

Emission Factor (EF) Conversions

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

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

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

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

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

Abbreviations

CH₄ = Methane

CO₂ = Carbon Dioxide

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	500,000	ton/yr
PM Dryer/Mixer Limitation =	0.876	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.358	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.377	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	0.876	0.876	0.876	218.9	218.9	218.9	218.9
PM10*	0.358	0.358	0.358	89.6	89.6	89.6	89.6
PM2.5*	0.377	0.377	0.377	94.3	94.3	94.3	94.3
SO2**	0.003	0.011	0.058	0.9	2.8	14.5	14.5
NOx**	0.026	0.055	0.055	6.5	13.8	13.8	13.8
VOC**	0.032	0.032	0.032	8.0	8.0	8.0	8.0
CO***	0.130	0.130	0.130	32.5	32.5	32.5	32.5
Hazardous Air Pollutant							
HCl			2.10E-04			0.05	0.05
Antimony	1.80E-07	1.80E-07	1.80E-07	4.50E-05	4.50E-05	4.50E-05	4.50E-05
Arsenic	5.60E-07	5.60E-07	5.60E-07	1.40E-04	1.40E-04	1.40E-04	1.40E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	1.03E-04	1.03E-04	1.03E-04	1.03E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	1.38E-03	1.38E-03	1.38E-03	1.38E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	6.50E-06	6.50E-06	6.50E-06	6.50E-06
Lead	6.20E-07	1.50E-05	1.50E-05	1.55E-04	3.75E-03	3.75E-03	3.75E-03
Manganese	7.70E-06	7.70E-06	7.70E-06	1.93E-03	1.93E-03	1.93E-03	1.93E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	6.00E-05	6.50E-04	6.50E-04	6.50E-04
Nickel	6.30E-05	6.30E-05	6.30E-05	1.58E-02	1.58E-02	1.58E-02	1.58E-02
Selenium	3.50E-07	3.50E-07	3.50E-07	8.75E-05	8.75E-05	8.75E-05	8.75E-05
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	1.00E-02	1.00E-02	1.00E-02	1.00E-02
Acetaldehyde			1.30E-03			0.33	0.33
Acrolein			2.60E-05			6.50E-03	6.50E-03
Benzene	3.90E-04	3.90E-04	3.90E-04	0.10	0.10	0.10	0.10
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.06	0.06	0.06	0.06
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	0.78	0.78	0.78	0.78
Hexane	9.20E-04	9.20E-04	9.20E-04	0.23	0.23	0.23	0.23
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.01	0.01	0.01	0.01
MEK			2.00E-05			0.01	0.01
Propionaldehyde			1.30E-04			0.03	0.03
Quinone			1.60E-04			0.04	0.04
Toluene	1.50E-04	2.90E-03	2.90E-03	0.04	0.73	0.73	0.73
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.05	0.22	0.22	0.22
Xylene	2.00E-04	2.00E-04	2.00E-04	0.05	0.05	0.05	0.05
Total HAPs							2.66
Worst Single HAP							0.775 (formaldehyde)

Methodology

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

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

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

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

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

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

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

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Global Warming Potentials (GWP)	Limited Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO ₂ e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO ₂	33	33	33	1	8,250.00	8,250.00	8,250.00	8,325.00
CH ₄	0.0120	0.0120	0.0120	25	3.00	3.00	3.00	
N ₂ O				298	0	0	0	
				Total	8,253.00	8,253.00	8,253.00	
	CO ₂ e Equivalent Emissions (tons/yr)				8,325.00	8,325.00	8,325.00	

Methodology

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

There are no emission factors for N₂O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N₂O emission 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: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

Limited Blast Furnace Slag Usage =

140,000

 ton/yr

1.50

 % sulfur
 Limited Annual Steel Slag Usage =

1,471,680

 ton/yr

0.66

 % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Limited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	0.7400	51.8
Steel Slag**	0.0014	1.03

Methodology

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

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

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

Abbreviations

SO2 = Sulfur Dioxide

Appendix A.2: Limited Emissions Summary

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr
 Natural Gas Usage = 11 MMCF/yr
 No. 2 Fuel Oil Usage = 75,086 gal/yr, and 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0.010	0.075	0.08
PM10/PM2.5	7.6	3.3	0.040	0.124	0.12
SO2	0.6	71.0	0.003	2.666	2.67
NOx	100	20.0	0.526	0.751	0.75
VOC	5.5	0.20	0.029	0.008	0.03
CO	84	5.0	0.442	0.188	0.44
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.1E-06	2.10E-05	2.1E-05
Beryllium	1.2E-05	4.2E-04	6.3E-08	1.58E-05	1.6E-05
Cadmium	1.1E-03	4.2E-04	5.8E-06	1.58E-05	1.6E-05
Chromium	1.4E-03	4.2E-04	7.4E-06	1.58E-05	1.6E-05
Cobalt	8.4E-05		4.4E-07		4.4E-07
Lead	5.0E-04	1.3E-03	2.6E-06	4.73E-05	4.7E-05
Manganese	3.8E-04	8.4E-04	2.0E-06	3.15E-05	3.2E-05
Mercury	2.6E-04	4.2E-04	1.4E-06	1.58E-05	1.6E-05
Nickel	2.1E-03	4.2E-04	1.1E-05	1.58E-05	1.6E-05
Selenium	2.4E-05	2.1E-03	1.3E-07	7.88E-05	7.9E-05
Benzene	2.1E-03		1.1E-05		1.1E-05
Dichlorobenzene	1.2E-03		6.3E-06		6.3E-06
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	3.9E-04	2.29E-03	0.002
Hexane	1.8E+00		0.01		0.009
Phenol					0
Toluene	3.4E-03		1.8E-05		1.8E-05
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		1.24E-04	1.2E-04

Total HAPs = 9.9E-03 2.7E-03 0.012
 Worst Single HAP = 9.5E-03 2.3E-03 9.5E-03
 (Hexane) (Formaldehyde) (Hexane)

Methodology

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

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

Abbreviations

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

**Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO2e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr
 Natural Gas Usage = 10.51 MMCF/yr
 No. 2 Fuel Oil Usage = 75,085.71 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO2	120,161.84	22,501.41	1	631.57	844.77
CH4	2.49	0.91	25	0.013	3.43E-02
N2O	2.20	0.26	298	0.012	9.76E-03
Total				631.60	844.81

Worse Case CO2e Emissions (tons/yr)
848.53

CO2e Equivalent Emissions (tons/yr)	635.34	848.53

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

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

Emission Factor (EF) Conversions

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

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

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

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

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

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

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (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: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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 =

1.20

 MMBtu/hr
 Natural Gas Usage =

10.51

 MMCF/yr, and
 No. 2 Fuel Oil Usage =

75,085.71

 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE	
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil		
VOC	2.60E-08	2.65E-05	1.37E-04	0.001		0.001
CO	8.90E-06	0.0012	0.047	0.045		0.047
Greenhouse Gas as CO2e*						
CO2	0.20	28.00	1051.20	1051.20		1,051.20
Hazardous Air Pollutant						
Formaldehyde	2.60E-08	3.50E-06	1.37E-04	1.31E-04		1.37E-04
Acenaphthene		5.30E-07		1.99E-05		1.99E-05
Acenaphthylene		2.00E-07		7.51E-06		7.51E-06
Anthracene		1.80E-07		6.76E-06		6.76E-06
Benzo(b)fluoranthene		1.00E-07		3.75E-06		3.75E-06
Fluoranthene		4.40E-08		1.65E-06		1.65E-06
Fluorene		3.20E-08		1.20E-06		1.20E-06
Naphthalene		1.70E-05		6.38E-04		6.38E-04
Phenanthrene		4.90E-06		1.84E-04		1.84E-04
Pyrene		3.20E-08		1.20E-06		1.20E-06

Total HAPs 1.00E-03
Worst Single HAP 6.38E-04 (Naphthalene)

Methodology

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

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

Abbreviations

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

**Appendix A.2: Limited Emissions Summary
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)**

Company Name: Walsh & Kelly, Inc.
Source Address: 21201 Wicker Avenue, Lowell, Indiana
Permit Number: F089-27021-05255
SPR No.: 089-36770-05255
Reviewer: Aida DeGuzman

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

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

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

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

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

Hazardous Air Pollutants (HAPs)

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

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

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

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

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

Green House Gas Emissions (GHG)

	Pollutant		
	CO ₂ ⁵	CH ₄ ⁶	N ₂ O ⁶
Emission Factor in lb/hp-hr	1.15	NA	NA
Emission Factor in kg/MMBtu	NA	0.003	0.0006
Emission Factor in lb/kgal	22,512.07	0.91	0.18
Limited Emission in tons/yr	0.00	0.000	0.000

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

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

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

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

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

Methodology

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

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

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

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

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

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

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

Appendix A.2: Limited Emissions Summary
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Output Horsepower Rating (hp)	0.0	Sulfur Content (S) of Fuel (% by weight)	0.50
Limited Hours Operated per Year	0		
Limited Throughput (hp-hr/yr)	0		
Limited Diesel Fuel Usage (gal/yr)	0		

	Pollutant						
	PM	PM10 ²	direct PM2.5 ²	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04			4.05E-03 (.00809S)	2.40E-02	7.05E-04	5.50E-03
Emission Factor in lb/MMBtu		0.0573	0.0573				
Emission Factor in lb/kgal ¹	13.70	7.85	7.85	79.18	469.82	13.80	107.67
Limited Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

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

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

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

Hazardous Air Pollutants (HAPs)

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

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

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

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

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

Green House Gas Emissions (GHG)

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

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

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

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

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

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

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

Methodology

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

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

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

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

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

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

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

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

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	500,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.13	0.15	NA	0.28
Organic PM	3.4E-04	2.5E-04	NA	0.09	0.063	NA	0.15
TOC	0.004	0.012	0.001	1.04	3.05	0.275	4.4
CO	0.001	0.001	3.5E-04	0.34	0.295	0.088	0.72

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

PM/HAPs	0.006	0.007	0	0.013
VOC/HAPs	0.015	0.039	0.004	0.058
non-VOC/HAPs	8.0E-05	8.2E-06	2.1E-05	1.1E-04
non-VOC/non-HAPs	0.08	0.04	0.02	0.14

Total VOCs	0.98	3.05	0.3	4.3
Total HAPs	0.02	0.05	0.004	0.07
		Worst Single HAP		0.022
				(formaldehyde)

Methodology

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Abbreviations

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate

Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	2.2E-04	3.0E-04	NA	5.2E-04
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	2.4E-05	8.9E-06	NA	3.3E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	6.0E-05	8.3E-05	NA	1.4E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	1.6E-05	3.6E-05	NA	5.2E-05
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	6.5E-06	0	NA	6.5E-06
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	1.9E-06	0	NA	1.9E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	1.6E-06	0	NA	1.6E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	2.0E-06	0	NA	2.0E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	6.6E-06	6.0E-06	NA	1.3E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	8.8E-05	1.3E-04	NA	2.2E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	3.2E-07	0	NA	3.2E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	4.3E-05	9.5E-05	NA	1.4E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	6.6E-04	6.4E-04	NA	1.3E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	4.0E-07	0	NA	4.0E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	2.0E-03	3.3E-03	NA	0.005
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	1.1E-03	1.2E-03	NA	2.2E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	1.9E-05	1.9E-05	NA	3.8E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	6.9E-04	1.1E-03	NA	1.8E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	1.3E-04	2.8E-04	NA	4.1E-04
Total PAH HAPs							0.005	0.007	NA	0.012
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	1.0E-03	0	0	1.0E-03

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

Methodology

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

Abbreviations

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

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	0.98	3.05	0.26	4.28
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	6.8E-02	7.9E-03	1.8E-02	0.093
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	4.8E-04	1.7E-03	1.3E-04	0.002
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	7.4E-03	3.4E-02	2.0E-03	0.043
Total non-VOC/non-HAPS					7.30%	1.40%	0.076	0.043	0.020	0.14
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	5.4E-04	9.7E-04	1.4E-04	1.7E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	1.0E-04	1.5E-04	2.6E-05	2.8E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	5.1E-04	1.2E-03	1.3E-04	1.8E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	1.4E-04	4.9E-04	3.6E-05	6.6E-04
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	2.2E-06	1.2E-04	5.8E-07	1.2E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	1.6E-04	7.0E-04	4.1E-05	9.0E-04
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	1.1E-03	0	3.0E-04	1.4E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	2.9E-03	1.2E-03	7.7E-04	0.005
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	9.1E-04	2.1E-02	2.4E-04	0.022
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	1.6E-03	3.0E-03	4.1E-04	0.005
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	1.9E-05	9.4E-06	5.0E-06	3.3E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	8.2E-06	0	8.2E-06
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	7.6E-05	1.6E-04	2.0E-05	2.6E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	8.0E-05	0	2.1E-05	1.0E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	2.2E-03	1.9E-03	5.8E-04	0.005
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	1.4E-05	0	3.6E-06	1.7E-05
m/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	4.3E-03	6.1E-03	1.1E-03	0.011
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	8.3E-04	1.7E-03	2.2E-04	2.8E-03
Total volatile organic HAPs					1.50%	1.30%	0.016	0.040	0.004	0.059

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: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

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

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.50	0.275	0.096
Limestone	1.6	1.85	3.00	1.014	0.355
RAP	0.5	0.58	2.00	0.211	0.074
Gravel	1.6	1.85	0.25	0.084	0.030
Shingles	0.5	0.58	0.25	0.026	0.009
Slag	3.8	4.40	1.00	0.803	0.281
Totals				2.41	0.84

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: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

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

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

where: E_f = Emission factor (lb/ton)

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

Annual Asphalt Production Limitation = 500,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 475,000 tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	0.54	0.25	0.04
Front-end loader dumping of materials into feeder bins	0.54	0.25	0.04
Conveyor dropping material into dryer/mixer or batch tower	0.54	0.25	0.04
Total (tons/yr)	1.62	0.76	0.12

Methodology

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

Material Screening and Conveying (AP-42 Section 19.2.2)

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	1.28	0.57
Screening	0.025	0.0087	5.94	2.07
Conveying	0.003	0.0011	0.71	0.26
Limited Potential to Emit (tons/yr) =			7.93	2.90

Methodology

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

Abbreviations

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

Appendix A.2: Limited Emissions Summary
Unpaved Roads

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Unpaved Roads at Industrial Site

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

Annual Asphalt Production Limitation = 500,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 475,000 tons/yr
 Maximum Asphalt Cement/Binder Throughput = 25,000 tons/yr
 No. 2 Fuel Oil Limitation = 1,254,492 gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	2.1E+04	8.4E+05	300	0.057	1204.8
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	2.1E+04	3.6E+05	300	0.057	1204.8
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	6.9E+02	3.3E+04	300	0.057	39.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	6.9E+02	8.3E+03	300	0.057	39.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	1.3E+02	5.8E+03	300	0.057	7.5
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.3E+02	1.6E+03	300	0.057	7.5
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	1.1E+05	2.2E+06	300	0.057	6425.9
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	1.1E+05	1.7E+06	300	0.057	6425.9
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	2.1E+04	8.5E+05	300	0.057	1183.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	2.1E+04	3.5E+05	300	0.057	1183.7
Total					3.1E+05	6.3E+06			1.8E+04

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

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

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

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

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f =	6.10	1.55	0.16	lb/mile
Mitigated Emission Factor, E_{ext} =	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	3.67	0.94	0.09	2.41	0.62	0.06	1.21	0.31	0.03
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	3.67	0.94	0.09	2.41	0.62	0.06	1.21	0.31	0.03
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.120	0.031	0.00	0.079	0.020	2.0E-03	0.040	0.010	1.0E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.120	0.031	0.00	0.079	0.020	2.0E-03	0.040	0.010	1.0E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.023	0.006	5.8E-04	0.015	0.004	3.8E-04	0.008	0.002	1.9E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.023	0.006	5.8E-04	0.015	0.004	3.8E-04	0.008	0.002	1.9E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	19.58	4.99	0.50	12.88	3.28	0.33	6.44	1.64	0.16
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	19.58	4.99	0.50	12.88	3.28	0.33	6.44	1.64	0.16
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	3.61	0.92	0.09	2.37	0.60	0.06	1.19	0.30	0.03
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	3.61	0.92	0.09	2.37	0.60	0.06	1.19	0.30	0.03
Totals		54.01	13.77	1.38	35.51	9.05	0.91	17.76	4.53	0.45

Methodology

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

Abbreviations

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

Appendix A.2: Limited Emissions Summary
Paved Roads
Limited Emissions

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

Paved Roads at Industrial Site

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

Annual Asphalt Production Limitation =	500,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	475,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	25,000	tons/yr
No. 2 Fuel Oil Limitation =	1,254,492	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	2.1E+04	8.4E+05	300	0.057	1204.8
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	2.1E+04	3.6E+05	300	0.057	1204.8
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	6.9E+02	3.3E+04	300	0.057	39.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	6.9E+02	8.3E+03	300	0.057	39.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	1.3E+02	5.8E+03	300	0.057	7.5
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.3E+02	1.6E+03	300	0.057	7.5
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	1.1E+05	2.2E+06	300	0.057	6425.9
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	1.1E+05	1.7E+06	300	0.057	6425.9
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	2.1E+04	8.5E+05	300	0.057	1183.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	2.1E+04	3.5E+05	300	0.057	1183.7
Total					3.1E+05	6.3E+06			1.8E+04

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

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

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ³ = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.09	0.02	0.00	0.08	0.02	0.00	0.04	0.01	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.09	0.02	0.00	0.08	0.02	0.00	0.04	0.01	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.003	0.001	1.4E-04	0.003	0.001	1.3E-04	0.001	2.7E-04	6.6E-05
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.003	0.001	1.4E-04	0.003	0.001	1.3E-04	0.001	2.7E-04	6.6E-05
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	5.6E-04	1.1E-04	2.7E-05	5.1E-04	1.0E-04	2.5E-05	2.6E-04	5.1E-05	1.3E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	5.6E-04	1.1E-04	2.7E-05	5.1E-04	1.0E-04	2.5E-05	2.6E-04	5.1E-05	1.3E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.48	0.10	0.02	0.44	0.09	0.02	0.22	0.04	0.01
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.48	0.10	0.02	0.44	0.09	0.02	0.22	0.04	0.01
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.09	0.02	0.00	0.08	0.02	0.00	0.04	0.01	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.09	0.02	0.00	0.08	0.02	0.00	0.04	0.01	0.00
Totals		1.32	0.26	0.06	1.21	0.24	0.06	0.60	0.12	0.03

Methodology

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 21201 Wicker Avenue, Lowell, Indiana
Permit Number: F089-27021-05255
SPR No.: 089-36770-05255
Reviewer: Aida DeGuzman

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

Limited VOC Emissions from the Sum of the Liquid Binders = tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder	Weight % VOC solvent in binder that evaporates	VOC Solvent Usage Limitation (tons/yr)	Limited PTE of VOC (tons/yr)	Liquid Binder Adjustment Ratio
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	11.4	10.8	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	15.4	10.8	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	43.2	10.8	4.000
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	23.3	10.8	2.155
Other asphalt with solvent binder	25.9%	2.5%	432.0	10.8	40.0
Worst Case Limited PTE of VOC =				10.8	

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
Limited PTE of Total HAPs (tons/yr) =	2.82
Limited PTE of Single HAP (tons/yr) =	0.97 Xylenes

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

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

Methodology

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

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

Abbreviations

VOC = Volatile Organic Compounds
PTE = Potential to Emit

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 21201 Wicker Avenue, Lowell, Indiana
 Permit Number: F089-27021-05255
 SPR No.: 089-36770-05255
 Reviewer: Aida DeGuzman

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

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

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

Volatile Organic Compounds

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

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	0.00	
Limited PTE of Single HAP (tons/yr) =	0.00	Xylenes

Methodology

The gasoline throughput was provided by the source.

Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] * [365 days/yr] * [kgal/1000 gal]

PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]

PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]

PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]

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

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit



Indiana Department of Environmental Management

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

March 22, 2016

Mr. John Peisker
Walsh & Kelly, Inc.
24358 State Road 23
South Bend, IN 46614

Re: Public Notice
Walsh & Kelly, Inc.
Permit Level: Federally Enforceable State
Operating Permit (FESOP)
Significant Permit Revision
Permit Number: 089-36770-05255

Dear Mr. Peisker:

Enclosed is a copy of your draft Federally Enforceable State Operating Permit (FESOP) Significant Permit Revision, Technical Support Document, emission calculations, and the Public Notice which will be printed in your local newspaper.

The Office of Air Quality (OAQ) has prepared two versions of the Public Notice Document. The abbreviated version will be published in the newspaper, and the more detailed version will be made available on the IDEM's website and provided to interested parties. Both versions are included for your reference. The OAQ has requested that the Post Tribune in Merrillville, Indiana and The Times in Munster, Indiana publish the abbreviated version of the public notice no later than March 24, 2016. You will not be responsible for collecting any comments, nor are you responsible for having the notice published in the newspaper.

OAQ has submitted the draft permit package to the Schneider Branch Library, 24002 Parish Avenue in Schneider, Indiana. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Aida DeGuzman, 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 3-4972 or dial (317) 233-4972.

Sincerely,

Vivian Haun

Vivian Haun
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover letter 2/17/2016



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Michael R. Pence
Governor

Carol S. Comer
Commissioner

ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

March 21, 2016

The Post Tribune
1433 E. 83rd Avenue
Merrillville, IN 46410

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for Walsh & Kelly, Inc., Lake County, Indiana.

Since our agency must comply with requirements which call for a Notice of Public Comment, we request that you print this notice one time, no later than March 24, 2016.

Please send a notarized form, clippings showing the date of publication, and the billing to the Indiana Department of Environmental Management, Accounting, Room N1345, 100 North Senate Avenue, Indianapolis, Indiana, 46204.

To ensure proper payment, please reference account # 100174737.

We are required by the Auditor's Office to request that you place the Federal ID Number on all claims. If you have any conflicts, questions, or problems with the publishing of this notice or if you do not receive complete public notice information for this notice, please call Vivian Haun at 800-451-6027 and ask for extension 3-6878 or dial 317-233-6878.

Sincerely,

Vivian Haun

Vivian Haun
Permit Branch
Office of Air Quality

Permit Level: Federally Enforceable State Operating Permit (FESOP)
Significant Permit Revision

Permit Number: 089-36770-05255

Enclosure
PN Newspaper.dot 8/27/2015



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Michael R. Pence
Governor

Carol S. Comer
Commissioner

ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

March 21, 2016

The Times
601 West 45th Avenue
Munster, IN 46321

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for Walsh & Kelly, Inc., Lake County, Indiana.

Since our agency must comply with requirements which call for a Notice of Public Comment, we request that you print this notice one time, no later than March 24, 2016.

Please send a notarized form, clippings showing the date of publication, and the billing to the Indiana Department of Environmental Management, Accounting, Room N1345, 100 North Senate Avenue, Indianapolis, Indiana, 46204.

To ensure proper payment, please reference account # 100174737.

We are required by the Auditor's Office to request that you place the Federal ID Number on all claims. If you have any conflicts, questions, or problems with the publishing of this notice or if you do not receive complete public notice information for this notice, please call Vivian Haun at 800-451-6027 and ask for extension 3-6878 or dial 317-233-6878.

Sincerely,

Vivian Haun

Vivian Haun
Permit Branch
Office of Air Quality

Permit Level: Federally Enforceable State Operating Permit (FESOP)
Significant Permit Revision

Permit Number: 089-36770-05255

Enclosure
PN Newspaper.dot 8/27/2015



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Michael R. Pence
Governor

Carol S. Comer
Commissioner

March 22, 2016

To: Schneider Branch Library

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

Subject: **Important Information to Display Regarding a Public Notice for an Air Permit**

Applicant Name: Walsh & Kelly, Inc.
Permit Number: 089-36770-05255

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Request to publish the Notice of 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. **Please make this information readily available until you receive a copy of the final package.**

If you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures
PN Library.dot 2/17/2016



Indiana Department of Environmental Management

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

Notice of Public Comment

March 22, 2016
Walsh & Kelly, Inc.
089-36770-05255

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has been placed in the Legal Advertising section of your local newspaper. The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana's Air Permitting Program.

Please Note: *If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.*

Enclosure
PN AAA Cover.dot 2/17/2016

Mail Code 61-53

IDEM Staff	VHAUN 3/22/2016 Walsh & Kelly, Inc. 089-36770-05255 DRAFT		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		John M Peisker Walsh & Kelly, Inc. 24358 SR 23 South Bend IN 46615 (Source CAATS)										
2		East Chicago City Council 4525 Indianapolis Blvd East Chicago IN 46312 (Local Official)										
3		Lake County Health Department-Gary 1145 W. 5th Ave Gary IN 46402-1795 (Health Department)										
4		WJOB / WZVN Radio 6405 Olcott Ave Hammond IN 46320 (Affected Party)										
5		Lowell Town Council and Town Manager PO Box 157, 501 East Main Street Lowell IN 46356 (Local Official)										
6		Shawn Sobocinski 5950 Old Porter Rd Aprt 306 Portage IN 46368-1558 (Affected Party)										
7		Mark Coleman 8 Turret Rd. Portage IN 46368-1072 (Affected Party)										
8		Mr. Chris Hernandez Pipefitters Association, Local Union 597 1461 East Summit St Crown Point IN 46307 (Affected Party)										
9		Schneider Branch Library 24002 Parrish Avenue Schneider IN 46367-0019 (Library)										
10		Craig Hogarth 7901 West Morris Street Indianapolis IN 46231 (Affected Party)										
11		Lake County Commissioners 2293 N. Main St, Building A 3rd Floor Crown Point IN 46307 (Local Official)										
12		Anthony Copeland 2006 E. 140th Street East Chicago IN 46312 (Affected Party)										
13		Barbara G. Perez 506 Lilac Street East Chicago IN 46312 (Affected Party)										
14		Mr. Robert Garcia 3733 Parrish Avenue East Chicago IN 46312 (Affected Party)										
15		Ms. Karen Kroczek 8212 Madison Ave Munster IN 46321-1627 (Affected Party)										

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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Mail Code 61-53

IDEM Staff	VHAUN 3/22/2016 Walsh & Kelly, Inc. 089-36770-05255 DRAFT		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handling Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee
											Remarks
1		Joseph Hero 11723 S Oakridge Drive St. John IN 46373 (Affected Party)									
2		Gary City Council 401 Broadway # 209 Gary IN 46402 (Local Official)									
3		Mr. Larry Davis 268 South, 600 West Hebron IN 46341 (Affected Party)									
4		Ryan Dave 939 Cornwallis Munster IN 46321 (Affected Party)									
5											
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10											
11											
12											
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15											

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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