



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

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

TO: Interested Parties / Applicant

DATE: November 9, 2009

RE: Walsh & Kelly, Inc / 141-27354-03219

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

## Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures  
FNPER.dot12/03/07



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**Federally Enforceable State Operating Permit  
Renewal  
OFFICE OF AIR QUALITY**

**Walsh and Kelly, Inc.  
24358 State Road 23  
South Bend, Indiana 46614**

(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.: F141-27354-03219	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: November 9, 2009  Expiration Date: November 9, 2019

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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)]

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

Source Address:	24358 State Road 23, South Bend, Indiana 46614
Mailing Address:	24358 State Road 23, South Bend, Indiana 46614
General Source Phone Number:	574-288-4811
SIC Code:	2951
County Location:	St. Joseph
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Major 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)]

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

- (a) One (1) hot asphalt drum rotary dryer/mixer, identified as 46P, capable of processing 400 tons per hour of raw material, equipped with one (1) 115 million British thermal units (MMBtu) per hour natural gas fired burner using No. 2 distillate fuel oil and re-refined waste fuel oil as backup fuels, controlling particulate emissions with one (1) rotary air/reverse air baghouse, exhausting at one (1) stack, identified as S-1, using slag in its aggregate mix;

Under NSPS Subpart I, the rotary drum dryer/mixer, 46P, is considered an affected facility.

- (b) One (1) tertiary crusher, with a maximum capacity of 300 tons per hour, using water spray for fugitive particulate emissions control;

Under NSPS Subpart OOO, the tertiary crusher is considered an affected facility.

- (c) Four (4) 20,000 gallon liquid asphalt storage tanks;
- (d) One (1) 15,000 gallon No. 2 fuel oil storage tank;
- (e) One (1) 20,000 gallon re-refined waste oil storage tank; and
- (f) Cold-mix (stockpile mix) asphalt storage piles.

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

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This stationary 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) natural gas fired hot oil heater, identified as C-2, with a maximum rated heat input capacity of 2.256 MMBtu/hr, using No. 2 distillate fuel oil as backup fuel; and
- (2) one (1) natural gas fired inert gas generator, identified as C-3, with a maximum rated heat input capacity of 0.0228 MMBtu/hr;
- (b) Combustion source flame safety purging on startup;
- (c) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (d) Paved and unpaved roads and parking lots with public access;
- (e) One (1) hot mix slat conveyor;
- (f) Four (4) aggregate conveyors;
- (g) One (1) 4' X 14' double deck aggregate screen;
- (h) Two (2) recycled asphalt conveyors;
- (i) One (1) 4' X 8' recycled asphalt screen;
- (j) Nine (9) aggregate feeder bins, each with a capacity of 32 tons;
- (k) One (1) recycled asphalt feeder bin, with a capacity of 32 tons;
- (l) Four (4) surge silos, each with a capacity of 300 tons; and
- (m) One (1) dust silo, using one (1) jetpulse baghouse for controlling particulate emissions, exhausting at one (1) stack, identified as S-2.

Under NSPS Subpart OOO, the dust silo is considered an affected facility.

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

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

## SECTION B GENERAL CONDITIONS

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

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

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

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- (a) This permit, F141-27354-03219, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

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

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

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

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

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

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

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

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

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

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

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- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

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

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- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This

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

- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

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

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- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than 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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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

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- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
  - (2) The permitted facility was at the time being properly operated;
  - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
  - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, and Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;  
  
Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or  
Telephone Number: 317-233-0178 (ask for Compliance and Enforcement Branch)  
Facsimile Number: 317-233-6865  
Northern Regional Office phone: (574) 245-4870; fax: (574) 245-4877.
- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

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

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

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

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

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

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

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

- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report. Any emergencies that have been previously reported pursuant to paragraph (b)(5) of this condition and certified by an "authorized individual" need only referenced by the date of the original report.

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

- (a) All terms and conditions of permits established prior to F141-27354-03219 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
  - (2) revised, or
  - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

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

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

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

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

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

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

- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
  - (1) That this permit contains a material mistake.
  - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
  - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

**B.17 Permit Renewal [326 IAC 2-8-3(h)]**

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

Request for renewal shall be submitted to:

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

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

**B.18 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]**

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- (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 shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.19 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

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

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

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

and

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

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

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

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

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

**B.20 Source Modification Requirement [326 IAC 2-8-11.1]**

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

**B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]**

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

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

**B.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]**

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- (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

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

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

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

- (a) Pursuant to 326 IAC 2-8:
  - (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
  - (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
  - (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.
- (c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.
- (d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

#### C.2 Opacity [326 IAC 5-1]

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

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

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

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

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

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The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

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

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

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

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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

All required notifications shall be submitted to:

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

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

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

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

#### **C.8 Performance Testing [326 IAC 3-6]**

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- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance 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 certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

#### **C.9 Compliance Requirements [326 IAC 2-1.1-11]**

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

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

### **C.10 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]**

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Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

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

The notification which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

### **C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]**

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Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

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

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- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

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

### **C.13 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]**

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

### **C.14 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]**

---

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the

likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:

- (1) initial inspection and evaluation;
  - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
  - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
- (1) monitoring results;
  - (2) review of operation and maintenance procedures and records; 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 maintain the following records:
- (1) monitoring data;
  - (2) monitor performance data, if applicable; and
  - (3) corrective actions taken.

**C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]**

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

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

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

**C.16 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]**

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring

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

- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later.

**C.17 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]**

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- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance 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) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

**Stratospheric Ozone Protection**

**C.18 Compliance with 40 CFR 82 and 326 IAC 22-1**

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

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

One (1) stationary drum mix asphalt plant consisting of the following:

- (a) One (1) hot asphalt drum rotary dryer/mixer, identified as 46P, capable of processing 400 tons per hour of raw material, equipped with one (1) 115 million British thermal units (MMBtu) per hour natural gas fired burner using No. 2 distillate fuel oil and re-refined waste fuel oil as backup fuels, controlling particulate emissions with one (1) rotary air/reverse air baghouse, exhausting at one (1) stack, identified as S-1, using slag in its aggregate mix;

Under NSPS Subpart I, the drum rotary dryer/mixer, 46P, is considered an affected facility.

- (b) One (1) tertiary crusher, with a maximum capacity of 300 tons per hour, using water spray for fugitive particulate emissions control;

Under NSPS Subpart OOO, the tertiary crusher is considered an affected facility.

- (c) Four (4) 20,000 gallon liquid asphalt storage tanks;

- (d) One (1) 15,000 gallon No. 2 fuel oil storage tank;

- (e) One (1) 20,000 gallon re-refined waste oil storage tank; and

- (f) 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 Particulate Matter (PM) [326 IAC 6.5-7-18] [326 IAC 2-2]

Pursuant to 326 IAC 6.5-7-18 (Particulate Matter Limitations Except in Lake County), particulate emissions from the rotary dryer, 46P, shall not exceed 0.04 gr/dscf and 53.22 tons per year.

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

#### D.1.2 FESOP Limits [326 IAC 2-8-4][326 IAC 8-1-6] [326 IAC 2-2]

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

- (a) The amount of asphalt processed shall not exceed 1,499,914 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) The amount of slag used shall not exceed 150,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (c) PM<sub>10</sub> emissions from the dryer/mixer shall not exceed 0.115 pounds per ton of asphalt produced.
- (d) PM<sub>2.5</sub> emissions from the dryer/mixer shall not exceed 0.115 pounds per ton of asphalt

produced.

- (e) CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt produced.
- (f) VOC emissions shall not exceed 0.032 pounds per ton of asphalt produced.
- (g) SO<sub>2</sub> emissions from the use of slag in the dryer/mixer shall not exceed 0.74 pounds SO<sub>2</sub> per ton of slag processed.
- (h) The sulfur content of the slag used shall not exceed one and five-tenths percent (1.5%) by weight.

Compliance with these limits, combined with limited potential to emit PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and CO from all other emission units, shall limit source-wide total potential to emit of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and CO emissions to less than one hundred (100) tons per twelve (12) consecutive month period, each, and VOC to less than twenty-five (25) tons per twelve (12) consecutive month period. Therefore, compliance with these limits will render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-7 (Part 70), and 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

#### D.1.3 Fuel Limitations [326 IAC 2-8-4] [326 IAC 2-2][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following fuel limitations:

- (a) Fuel Content Specifications
  - (1) The sulfur content of the No. 2 fuel oil shall not exceed five-tenths percent (0.50%) by weight.
  - (2) The sulfur content of the waste oil shall not exceed sixty-six hundredths percent (0.66%) by weight.
  - (3) The HCl emissions shall not exceed 0.0132 pounds of HCl per gallon of waste oil used.
  - (4) The Chlorine content of the waste oil shall not exceed two-tenths percent (0.2%) by weight.
- (b) Pursuant to 326 IAC 2-8-4, the SO<sub>2</sub> emissions from the aggregate mixer/dryer burner shall be limited as follows:
  - (1) The usage of waste oil and waste oil equivalents for the aggregate dryer burner shall not exceed 793,158 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

For the purpose of determining compliance with this limit:

    - (A) Every 0.1617 MMCF of natural gas shall be equivalent to 1.0 gallons of waste oil based on SO<sub>2</sub> emissions.
    - (B) Every 1.24 gallons of No. 2 fuel oil shall be equivalent to 1.0 gallons of waste oil based on SO<sub>2</sub> emissions.
  - (2) The usage of No. 2 fuel oil and No. 2 fuel oil equivalents for the aggregate dryer burner shall not exceed 980,379 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

For the purpose of determining compliance with this limit:

- (A) Every 0.1308 MMCF of natural gas shall be equivalent to 1.0 gallons of No. 2 fuel oil based on SO<sub>2</sub> emissions.
  - (B) Every 0.81 gallons of waste oil shall be equivalent to 1.0 gallons of No. 2 fuel oil based on SO<sub>2</sub> emissions.
- (c) Pursuant to 326 IAC 2-8-4, the NO<sub>x</sub> emissions from the aggregate mixer burner shall be limited as follows:
- (1) The usage of natural gas and natural gas equivalents for the aggregate dryer burner shall not exceed 1007.0 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month.

For the purpose of determining compliance with this limit:

- (A) Every 1,000 gallons of No. 2 fuel oil shall be equivalent to 0.1263 MMCF of natural gas based on NO<sub>x</sub> emissions.
- (B) Every 1,000 gallons of used or waste oil shall be equivalent to 0.100 MMCF of natural gas based on NO<sub>x</sub> emissions.

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<sub>x</sub> and SO<sub>2</sub> 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.1.4 SO<sub>2</sub> Emissions [326 IAC 7-1.1-2]

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Pursuant to 326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations), the SO<sub>2</sub> emissions from the rotary dryer/mixer, 46P, which exhaust through stack S-1 shall not exceed the following:

- (a) 0.5 pounds per million Btu heat input for distillate oil combustion; and
- (b) 1.6 pounds per million Btu heat input for residual oil combustion.

Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated by reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in pounds per MMBtu upon request.

#### D.1.5 VOC Emissions [326 IAC 2-8-4][326 IAC 2-2]

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Cutback asphalt slow cure liquid binder used in the production of cold mix asphalt shall not exceed 237.8 tons of VOC solvent per twelve (12) consecutive month period. This is equivalent to limiting the VOC emitted from solvent use to 68.73 tons per twelve (12) consecutive month period, based on the following definition:

Cutback asphalt slow cure liquid binder, containing a maximum 20.0% of the liquid binder of VOC solvent and 25% by weight of the VOC solvent evaporating.

Compliance with this limit, combined with the limited potential to emit VOC, shall limit the source-wide total potential to emit VOC to less than one hundred (100) tons per twelve (12) consecutive month period and shall render 326 IAC 2-7 (Part 70) and 326 IAC 2-2 (PSD) not applicable.

#### D.1.6 VOC Emissions [326 IAC 8-5-2]

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Pursuant to 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving), the use of cutback

asphalt or asphalt emulsion shall not contain more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:

- (1) penetrating prime coating
- (2) stockpile storage
- (3) application during the months of November, December, January, February and March.

#### D.1.7 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the drum rotary dryer/mixer, 46P, and its baghouse control device.

### **Compliance Determination Requirements**

#### D.1.8 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with the Conditions D.1.1 and D.1.2, the Permittee shall perform the following:

- (a) In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM testing on the exhaust from the rotary dryer/mixer, 46P, within five (5) years from the last valid compliance demonstration, utilizing methods as approved by the Commissioner.

This test shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

- (b) In order to demonstrate compliance with Condition D.1.2, the Permittee shall perform PM<sub>10</sub> and PM<sub>2.5</sub> testing on the exhaust from the aggregate rotary dryer/mixer, 46P, 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 (PM<sub>2.5</sub>), signed on May 8th, 2008, or five years from the last valid compliance test, whichever is later, utilizing methods as approved by the Commissioner.

These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM<sub>10</sub> and PM<sub>2.5</sub> includes filterable and condensable PM. Testing shall be conducted in accordance with Section C- Performance Testing.

- (c) In order to demonstrate compliance with Condition D.1.2(g), the Permittee shall perform SO<sub>2</sub> testing on the exhaust from the mixer/dryer within 180 days of the issuance of the permit, utilizing methods as approved by the Commissioner.

This test shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

#### D.1.9 PM, PM<sub>10</sub>, and PM<sub>2.5</sub> Control

- (a) In order to comply with Conditions D.1.1 and D.1.2, the baghouse for particulate control, shall be in operation and control emissions from rotary dryer/mixer, 46P, at all times that the rotary dryer/mixer, 46P, is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also

include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

#### D.1.10 Sulfur Dioxide (SO<sub>2</sub>) Emissions and Sulfur Content

(a) Compliance with the slag limitations established in Condition D.1.2 shall be determined utilizing one of the following options:

- (1) Providing vendor analysis of all slag delivered, if accompanied by a vendor certification; or
- (2) Analyzing a sample of the slag delivery to determine the sulfur content of the slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

(b) Compliance with the fuel limitations established in Conditions D.1.3, and D.1.4 shall be determined utilizing one of the following options. Pursuant to 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements), compliance shall be demonstrated on a thirty (30) day calendar-month average.

(1) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million cubic feet (MMCF) when burning natural gas, seven hundred eighty-five ten-thousandths (0.0785) pounds per gallon when burning number 2 fuel oil, and nine hundred seventy-two thousandths (0.972) pounds per gallon when burning waste oil by:

- (A) Providing vendor analysis of all fuel delivered, if accompanied by a vendor certification; or
- (B) Analyzing the fuel sample to determine the sulfur content of the fuel via the procedures in 40 CFR 60, Appendix A, Method 19.
  - (i) Fuel samples may be collected from the fuel storage tank immediately after the fuel tank is filled and before any oil is combusted; and
  - (ii) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(2) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 115 MMBtu/hr burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

#### D.1.11 Hydrogen Chloride (HCl) Emissions and Chlorine Content

In order to comply with Condition D.1.3, the Permittee shall demonstrate that the chlorine content of the fuel used in the fuel combustion equipment does not exceed two-tenths of a percent (0.2%) by weight, when combusting recycled (waste) oil, by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.

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

### D.1.12 Visible Emissions Notations

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- (a) Visible emission notations of the conveyers, material transfer points, and the rotary dryer/mixer, 46P, stack exhaust (S-1) shall be performed at least once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) 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 emission is observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C – Response to Excursions and Exceedances shall be considered a deviation from this permit.

### D.1.13 Parametric Monitoring

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The Permittee shall record the pressure drop across the baghouse used in conjunction with the mixer/dryer, at least once per day when the mixing/drying process is in operation and venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. A pressure reading that is outside of the above mentioned range is not a deviation from this permit, however, failure to take response steps in accordance with Section C – Response to Excursions and Exceedances, shall be considered a deviation from this permit.

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

### D.1.14 Broken or Failed Bag Detection

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In the event that bag failure has been observed:

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

Bag failure can be indicated by a significant drop in the baghouses' 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 Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

**D.1.15 Record Keeping Requirements**

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- (a) To document compliance with Condition D.1.2, the Permittee shall maintain records of the amount of asphalt produced per month.
- (b) To document compliance with Condition D.1.2, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken daily and shall be complete and sufficient to establish compliance with the SO<sub>2</sub> emission limits established in Condition D.1.2. For the sulfur content limit, the compliance determination period is each calendar month.

- (1) Calendar dates covered in the compliance determination period;
- (2) Actual slag usage, sulfur content in weight percent (wt%) and the 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

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

- (4) Slag supplier certifications;
- (5) The name of the slag supplier; and
- (6) A statement from the slag supplier that certifies the sulfur content of the slag.

- (c) To document compliance with Conditions D.1.3, and D.1.4, the Permittee shall maintain records in accordance with (1) through (7) below. Records maintained for (1) through (7) shall be taken daily and shall be complete and sufficient to establish compliance with the SO<sub>2</sub>, HCl and NO<sub>x</sub> emission limits established in Conditions D.1.3, and D.1.4. For the annual fuel limits, the compliance determination period is the most recent twelve (12) consecutive month period. For the HCl and sulfur content limits, the compliance determination period is each calendar month.

- (1) Calendar dates covered in the compliance determination period;
- (2) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide and nitrogen oxide emission rates for each fuel used at the source per month;
- (3) Actual recycled (waste) oil usage, chlorine content in weight percent (wt%), and equivalent hydrogen chloride (HCl) emission rate per month;
- (4) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

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

- (5) Fuel supplier certifications;
- (6) The name of the fuel supplier; and
- (7) A statement from the fuel supplier that certifies the sulfur content of the No. 2 fuel oil and the recycled (waste) oil, and the chlorine, ash, and lead content of

recycled (waste) oil.

- (d) To document compliance with Condition D.1.5, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limit established in Condition D.1.5.
- (1) Calendar dates covered in the compliance determination period;
  - (2) Cutback asphalt slow cure liquid binder usage in the production of cold mix asphalt each month;
  - (3) VOC solvent content by weight of the cutback asphalt slow cure liquid binder used in the production of cold mix asphalt each month; and
  - (4) 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 compliance with Condition D.1.12, the Permittee shall maintain records of visible emission notations of the conveyers, material transfer points, and the mixer/dryer stack exhaust (S-1) at least once per day when the asphalt plant is operating. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the plant did not operate that day).
- (f) To document compliance with Condition D.1.13, the Permittee shall maintain records of the pressure drop daily. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g., the mixer/dryer did not operate that day).
- (g) The Permittee shall maintain records of all recording/monitoring data, calculations, and support information in accordance with Section C - General Record Keeping Requirements, of this permit. 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.

#### D.1.16 Reporting Requirements

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A quarterly summary of the information to document compliance with Conditions D.1.2, D.1.3, D.1.4, and D.1.5, shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

## SECTION D.2

## FACILITY OPERATION CONDITIONS

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

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million BTU per hour:
  - (1) one (1) natural gas fired hot oil heater, identified as C-2, with a maximum rated heat input capacity of 2.256 MMBtu/hr, using No. 2 distillate fuel oil as backup fuel; and
  - (2) one (1) natural gas fired inert gas generator, identified as C-3, with a maximum rated heat input capacity of 0.0228 MMBtu/hr;
- (b) Combustion source flame safety purging on startup;
- (c) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (d) Paved and unpaved roads and parking lots with public access;
- (e) One (1) hot mix slat conveyor;
- (f) Four (4) aggregate conveyors;
- (g) One (1) 4' X 14' double deck aggregate screen;
- (h) Two (2) recycled asphalt conveyors;
- (i) One (1) 4' X 8' recycled asphalt screen;
- (j) Nine (9) aggregate feeder bins, each with a capacity of 32 tons;
- (k) One (1) recycled asphalt feeder bin, with a capacity of 32 tons;
- (l) Four (4) surge silos, each with a capacity of 300 tons; and
- (m) One (1) dust silo, using one (1) jetpulse baghouse for controlling particulate emissions, exhausting at one (1) stack, identified as S-2.

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

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

There are no applicable state or federal requirements for these units.

**SECTION E.1 NSPS 40 CFR Part 60 Subpart I Requirements: Hot Mix Asphalt Facilities**

**Facility Description [326 IAC 2-8-4(10)]: Rotary Dryer/Mixer, 46P**

- (a) One (1) hot asphalt drum rotary dryer/mixer, identified as 46P, capable of processing 400 tons per hour of raw material, equipped with one (1) 115 million British thermal units (MMBtu) per hour natural gas fired burner using No. 2 distillate fuel oil and re-refined waste fuel oil as backup fuels, controlling particulate emissions with one (1) rotary air/reverse air baghouse, exhausting at one (1) stack, identified as S-1, using slag in its aggregate mix;

Under NSPS Subpart I, the drum rotary dryer/mixer, 46P, is considered an affected facility.

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

**NSPS 40 CFR Part 60 Subpart I Requirements: Hot Mix Asphalt Facilities**

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

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

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

**E.1.2 NSPS Subpart I: Applicable Provisions [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:

The affected sources at this location are subject to the following portions of 40 CFR 60, Subpart I:

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

## **SECTION E.2 NSPS 40 CFR Part 60 Subpart OOO Requirements: Nonmetallic Mineral Processing Plants**

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

- (b) One (1) tertiary crusher, with a maximum capacity of 300 tons per hour, using water spray for fugitive particulate emissions control;
- (n) One (1) dust silo, using one (1) jetpulse baghouse for controlling particulate emissions, exhausting at one (1) stack, identified as S-2.

Under NSPS Subpart OOO, the tertiary crusher and dust silo are considered affected facilities.

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

### **NSPS 40 CFR Part 60 Subpart OOO Requirements: Nonmetallic Mineral Processing Plants**

#### **E.2.1 General Provisions Relating to NSPS [326 IAC 12][40 CFR Part 60, Subpart A]**

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

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

#### **E.2.2 NSPS Subpart OOO: Applicable Provisions [40 CFR Part 60, Subpart OOO] [326 IAC 12]**

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

The affected facilities at this location are subject to the following portions of 40 CFR 60, Subpart OOO:

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

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

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

Source Name: Walsh and Kelly, Inc.  
Source Address: 24358 State Road 23, South Bend, Indiana 46614  
Mailing Address: 24358 State Road 23, South Bend, Indiana 46614  
FESOP Permit No.: F141-27354-03219

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

Please check what document is being certified:

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

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

Signature:

Printed Name:

Title/Position:

Date:

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

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

Source Name: Walsh and Kelly, Inc.  
Source Address: 24358 State Road 23, South Bend, Indiana 46614  
Mailing Address: 24358 State Road 23, South Bend, Indiana 46614  
FESOP Permit No.: F141-27354-03219

**This form consists of 2 pages**

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- |   |
|---|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none"><li>• The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and</li><li>• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16</li></ul> |
|---|

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

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

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

Page 2 of 2

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

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

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

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

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

A certification is not required for this report.

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

**FESOP Quarterly Report**

Source Name: Walsh and Kelly, Inc.  
Source Address: 24358 State Road 23, South Bend, Indiana 46614  
Mailing Address: 24358 State Road 23, South Bend, Indiana 46614  
FESOP Permit No.: F141-27354-03219  
Facility: Entire Asphalt Plant  
Parameter: Asphalt Production  
Limit: Shall not exceed 1,499,914 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

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

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

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

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

Attach a signed certification to complete this report.

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

**FESOP Quarterly Report**

Source Name: Walsh and Kelly, Inc.  
 Source Address: 24358 State Road 23, South Bend, Indiana 46614  
 Mailing Address: 24358 State Road 23, South Bend, Indiana 46614  
 FESOP Permit No.: F141-27354-03219  
 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 150,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month..

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

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

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

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

Attach a signed certification to complete this report.

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

**FESOP Quarterly Report**

Source Name: Walsh and Kelly, Inc.  
 Source Address: 24358 State Road 23, South Bend, Indiana 46614  
 Mailing Address: 24358 State Road 23, South Bend, Indiana 46614  
 FESOP Permit No.: F141-27354-03219  
 Facility: Rotary drum dryer/mixer, 46P  
 Parameter: Waste oil and equivalent usage limit to limit SO<sub>2</sub> and HCl emissions  
 Limit: The usage of waste oil and waste oil equivalents for the aggregate dryer burner shall not exceed 793,158 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the fuel equivalency ratios in Condition D.1.3(b)(1)(A) and (B) shall be used such that the total gallons of waste oil and waste oil equivalents input does not exceed the limit specified.

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

Month	Column 1	Column 2	Column 1 + Column 2
	Waste Oil and Equivalent Usage This Month (gallons)	Waste Oil and Equivalent Usage Previous 11 Months (gallons)	Waste Oil and Equivalent Usage 12 Month Total (gallons)
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

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

**FESOP Quarterly Report**

Source Name: Walsh and Kelly, Inc.  
 Source Address: 24358 State Road 23, South Bend, Indiana 46614  
 Mailing Address: 24358 State Road 23, South Bend, Indiana 46614  
 FESOP Permit No.: F141-27354-03219  
 Facility: Rotary drum dryer/mixer, 46P  
 Parameter: No. 2 fuel oil and equivalent usage limit to limit SO<sub>2</sub> and HCl emissions  
 Limit: The usage of No. 2 fuel oil and No. 2 fuel oil equivalents for the aggregate dryer burner shall not exceed 980,379 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the fuel equivalency ratios in Condition D.1.3(b)(2)(A) and (B) shall be used such that the total gallons of waste oil and waste oil equivalents input does not exceed the limit specified.

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

Month	Column 1	Column 2	Column 1 + Column 2
	No. 2 Fuel Oil and Equivalent Usage This Month (gallons)	No. 2 Fuel Oil and Equivalent Usage Previous 11 Months (gallons)	No. 2 Fuel Oil and Equivalent Usage 12 Month Total (gallons)
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

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

**FESOP Quarterly Report**

Source Name: Walsh and Kelly, Inc.  
 Source Address: 24358 State Road 23, South Bend, Indiana 46614  
 Mailing Address: 24358 State Road 23, South Bend, Indiana 46614  
 FESOP Permit No.: F141-27354-03219  
 Facility: Rotary drum dryer/mixer, 46P  
 Parameter: Natural gas and equivalent usage limit to limit NOx emissions  
 Limit: The usage of natural gas and natural gas equivalents for the aggregate dryer burner shall not exceed 1007 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance with this limit, the fuel equivalency ratios in Condition D.1.3(c)(1)(A) and (B) shall be used such that the total MMcf of natural gas and natural gas equivalents input does not exceed the limit specified.

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)	Natural Gas and Equivalent Usage 12 Month Total (MMCF)
Month 1			
Month 2			
Month 3			

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

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

Attach a signed

certification to complete this report.

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

**FESOP Quarterly Report**

Source Name: Walsh and Kelly, Inc.  
Source Address: 24358 State Road 23, South Bend, Indiana 46614  
Mailing Address: 24358 State Road 23, South Bend, Indiana 46614  
FESOP Permit No.: F141-27354-03219  
Facility: Entire Asphalt Plant  
Parameter: Volatile Organic Compounds  
Limit: Cutback asphalt slow cure liquid binder used in the production of cold mix asphalt shall not exceed 237.8 tons of VOC solvent per twelve (12) consecutive month period. This is equivalent to limiting the VOC emitted from the solvent use to 68.73 tons per twelve (12) consecutive month period.

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

Month	Column 1	Column 2	Column 1 + Column 2
	Total VOC Solvent Usage This Month (tons)	Total VOC Solvent Usage Previous 11 Months (tons)	Total VOC Solvent Usage 12 Month Total (tons)
Month 1			
Month 2			
Month 3			

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

Submitted by: \_\_\_\_\_

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

Signature: \_\_\_\_\_

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

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

Attach a signed certification to complete this report.

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

Source Name: Walsh and Kelly, Inc.  
Source Address: 24358 State Road 23, South Bend, Indiana 46614  
Mailing Address: 24358 State Road 23, South Bend, Indiana 46614  
FESOP Permit No.: F141-27354-03219

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

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

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

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

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

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

Attach a signed certification to complete this report.

**Attachment A**  
**Fugitive Dust Control Plan**  
**for FESOP Renewal No.: 141-27354-03219**  
**Walsh & Kelly, Inc.**

- (a) Fugitive particulate matter emissions from paved roads, unpaved roads, and parking lots shall be controlled by one or more of the following methods:
- Paved roads and parking lots:
- (1) power brooming while wet either from rain or application of water on an as needed basis.
- Unpaved roads and parking lots:
- (1) paving with asphalt;
  - (2) treating with emulsified asphalt on an as needed basis;
  - (3) treating with water on an as needed basis; or
  - (4) double chip and seal the road surface and maintained on an as needed basis.
- (b) Fugitive particulate matter emissions from aggregate stockpiles shall be controlled by one or more of the following methods on an as needed basis:
- (1) maintaining minimum size and number of stockpiles of aggregate;
  - (2) treating around the stockpile area with emulsified asphalt;
  - (3) treating around the stockpile area with water; or
  - (4) treating the stockpiles with water.
- (c) Fugitive particulate matter emissions from outdoor conveying of aggregates shall be controlled by applying water at the feed and the intermediate points.
- (d) Fugitive particulate matter emissions from the transfer of aggregates shall be controlled by one of the following methods:
- (1) minimize the vehicular distance between transfer points;
  - (2) enclose the transfer points; or
  - (3) apply water on transfer points on an as needed basis.
- (e) Fugitive particulate matter emissions from transportation of aggregate by truck, front end loader, etc. shall be controlled by one of the following methods:
- (1) tarping the aggregate hauling vehicles;
  - (2) maintain vehicle bodies in condition to prevent leakage;
  - (3) spray the aggregates with water; or
  - (4) maintain a 10 mph speed limit in the yard.
- (f) Fugitive particulate matter emissions from the loading and unloading of aggregate shall be controlled by one of the following methods:
- (1) reduce free fall distance to a minimum;
  - (2) reduce the rate of discharge of the aggregate; or
  - (3) spray the aggregate with water on an as needed basis.

**Attachment B**  
**NSPS Subpart I, Hot Mix Asphalt Facilities**  
**for FESOP Renewal No.: 141-27354-03219**  
**Walsh & Kelly, Inc.**

**§ 60.90 *Applicability and designation of affected facility.***

- (a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.
- (b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

**§ 60.91 *Definitions.***

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

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

[51 FR 12325, Apr. 10, 1986]

**§ 60.92 *Standard for particulate matter.***

- (a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:
  - (1) Contain particulate matter in excess of 0.04 gr/dscf (90 mg/dscm).
  - (2) Exhibit 20 percent opacity, or greater.

**§ 60.93 *Test methods and procedures.***

- (a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).
- (b) The owner or operator shall determine compliance with the particulate matter standards in §60.92 as follows:
  - (1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).
  - (2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

[54 FR 6667, Feb. 14, 1989]

**Attachment C**  
**NSPS Subpart OOO, Nonmetallic Mineral Processing Plants**  
**for FESOP Renewal No.: 141-27354-03219**  
**Walsh & Kelly, Inc.**

**§ 60.670 *Applicability and designation of affected facility.***

- (a) (1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.
- (2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; plants without crushers or grinding mills above ground; and wet material processing operations (as defined in §60.671).
- (b) An affected facility that is subject to the provisions of subparts F or I of this part or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.
- (c) Facilities at the following plants are not subject to the provisions of this subpart:
- (1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 23 megagrams per hour (25 tons per hour) or less;
- (2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 136 megagrams per hour (150 tons per hour) or less; and
- (3) Common clay plants and pumice plants with capacities, as defined in §60.671, of 9 megagrams per hour (10 tons per hour) or less.
- (d) (1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in §60.671, having the same function as the existing facility, and there is no increase in the amount of emissions, the new facility is exempt from the provisions of §§60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.
- (2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in §60.676(a).
- (3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§60.672, 60.674 and 60.675.
- (e) An affected facility under paragraph (a) of this section that commences construction, modification, or reconstruction after August 31, 1983, is subject to the requirements of this part.
- (f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that do not apply to owners and operators of affected facilities subject to this subpart or that apply with certain exceptions.

## **§ 60.671 Definitions.**

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

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

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

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

*Building* means any frame structure with a roof.

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

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

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

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

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

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

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

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

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

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

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

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

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

- (2) Sand and Gravel.
- (3) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.
- (4) Rock Salt.
- (5) Gypsum (natural or synthetic).
- (6) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.
- (7) Pumice.
- (8) Gilsonite.
- (9) Talc and Pyrophyllite.
- (10) Boron, including Borax, Kernite, and Colemanite.
- (11) Barite.
- (12) Fluorospar.
- (13) Feldspar.
- (14) Diatomite.
- (15) Perlite.
- (16) Vermiculite.
- (17) Mica.
- (18) Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

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

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

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

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

**Screening operation** means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens). Grizzly feeders associated with truck dumping and static (non-moving) grizzlies used anywhere in the nonmetallic mineral processing plant are not considered to be screening operations.

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

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

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

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

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

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

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

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

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

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

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

### **§ 60.672 Standard for particulate matter (PM).**

- (a) Affected facilities must meet the stack emission limits and compliance requirements in Table 2 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.8. The requirements in Table 2 of this subpart apply for affected facilities with capture systems used to capture and transport particulate matter to a control device.
- (b) Affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11. The requirements in

**Table 3 of this subpart apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems.**

- (c) [Reserved]
- (d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.
- (e) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a) and (b) of this section, or the building enclosing the affected facility or facilities must comply with the following emission limits:
  - (1) Fugitive emissions from the building openings (except for vents as defined in §60.671) must not exceed 7 percent opacity; and
  - (2) Vents (as defined in §60.671) in the building must meet the applicable stack emission limits and compliance requirements in Table 2 of this subpart.
- (f) Any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance testing) in Table 2 of this subpart but must meet the applicable stack opacity limit and compliance requirements in Table 2 of this subpart. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions.

### **§ 60.673 *Reconstruction.***

- (a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the “fixed capital cost of the new components” or the “*fixed capital cost that would be required to construct a comparable new facility*” under §60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.
- (b) Under §60.15, the “*fixed capital cost of the new components*” includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

### **§ 60.674 *Monitoring of operations.***

- (a) The owner or operator of any affected facility subject to the provisions of this subpart which uses a wet scrubber to control emissions shall install, calibrate, maintain and operate the following monitoring devices:
  - (1) A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 250$  Pascals  $\pm 1$  inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.
  - (2) A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 5$  percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.
- (b) The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control emissions from the affected facility must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24

**hours and complete corrective action as expediently as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under §60.676(b).**

- (1) If an affected facility relies on water carryover from upstream water sprays to control fugitive emissions, then that affected facility is exempt from the 5-year repeat testing requirement specified in Table 3 of this subpart provided that the affected facility meets the criteria in paragraphs (b)(1)(i) and (ii) of this section:**
  - (i) The owner or operator of the affected facility conducts periodic inspections of the upstream water spray(s) that are responsible for controlling fugitive emissions from the affected facility. These inspections are conducted according to paragraph (b) of this section and §60.676(b), and**
  - (ii) The owner or operator of the affected facility designates which upstream water spray(s) will be periodically inspected at the time of the initial performance test required under §60.11 of this part and §60.675 of this subpart.**
- (2) If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under §60.676(b) must specify the control mechanism being used instead of the water sprays.**
- (c) Except as specified in paragraph (d) or (e) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A-7). The Method 22 (40 CFR part 60, Appendix A-7) test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner or operator must record each Method 22 (40 CFR part 60, Appendix A-7) test, including the date and any corrective actions taken, in the logbook required under §60.676(b). The owner or operator of the affected facility may establish a different baghouse-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to §60.675(b) simultaneously with a Method 22 (40 CFR part 60, Appendix A-7) to determine what constitutes normal visible emissions from that affected facility's baghouse when it is in compliance with the applicable PM concentration limit in Table 2 of this subpart. The revised visible emissions success level must be incorporated into the permit for the affected facility.**
- (d) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions may use a bag leak detection system. The owner or operator must install, operate, and maintain the bag leak detection system according to paragraphs (d)(1) through (3) of this section.**
  - (1) Each bag leak detection system must meet the specifications and requirements in paragraphs (d)(1)(i) through (viii) of this section.**
    - (i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.**
    - (ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means ( e.g. , using a strip chart recorder or a data logger).**

- (iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (d)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.
  - (iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.
  - (v) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (d)(1)(vi) of this section.
  - (vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (d)(2) of this section.
  - (vii) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.
  - (viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.
- (2) The owner or operator of the affected facility must develop and submit to the Administrator or delegated authority for approval of a site-specific monitoring plan for each bag leak detection system. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (d)(2)(i) through (vi) of this section.
- (i) Installation of the bag leak detection system;
  - (ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;
  - (iii) Operation of the bag leak detection system, including quality assurance procedures;
  - (iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;
  - (v) How the bag leak detection system output will be recorded and stored; and
  - (vi) Corrective action procedures as specified in paragraph (d)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.
- (3) For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (d)(2)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

- (i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;
  - (ii) Sealing off defective bags or filter media;
  - (iii) Replacing defective bags or filter media or otherwise repairing the control device;
  - (iv) Sealing off a defective fabric filter compartment;
  - (v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or
  - (vi) Shutting down the process producing the PM emissions.
- (e) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A–7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility that is subject to the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) may follow the continuous compliance requirements in row 1 items (i) through (iii) of Table 6 to Subpart AAAAA of 40 CFR part 63.

### **§ 60.675 Test methods and procedures.**

- (a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendices A–1 through A–7 of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of this section.
- (b) The owner or operator shall determine compliance with the PM standards in §60.672(a) as follows:
- (1) Except as specified in paragraphs (e)(3) and (4) of this section, Method 5 of Appendix A–3 of this part or Method 17 of Appendix A–6 of this part shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5 (40 CFR part 60, Appendix A–3), if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.
  - (2) Method 9 of Appendix A–4 of this part and the procedures in §60.11 shall be used to determine opacity.
- (c) (1) In determining compliance with the particulate matter standards in §60.672(b) or §60.672(e)(1), the owner or operator shall use Method 9 of Appendix A–4 of this part and the procedures in §60.11, with the following additions:
- (i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
  - (ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources ( e.g., road dust). The required observer position relative to the sun (Method 9 of Appendix A–4 of this part, Section 2.1) must be followed.
  - (iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.



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

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

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

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

Where:

$V_e$ = average building vent velocity (feet per minute);

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

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

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

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

(h) [Reserved]

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

### § 60.676 Reporting and recordkeeping.

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

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

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



- (e) The reports required under paragraph (d) of this section shall be postmarked within 30 days following end of the second and fourth calendar quarters.
- (f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672 of this subpart, including reports of opacity observations made using Method 9 (40 CFR part 60, Appendix A–4) to demonstrate compliance with §60.672(b), (e) and (f).
- (g) The owner or operator of any wet material processing operation that processes saturated and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. At the time of such change, this screening operation, bucket elevator, or belt conveyor becomes subject to the applicable opacity limit in §60.672(b) and the emission test requirements of §60.11.
- (h) The subpart A requirement under §60.7(a)(1) for notification of the date construction or reconstruction commenced is waived for affected facilities under this subpart.
- (i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.
  - (1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.
  - (2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.
- (j) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected facilities within the State will be relieved of the obligation to comply with the reporting requirements of this section, provided that they comply with requirements established by the State.
- (k) Notifications and reports required under this subpart and under subpart A of this part to demonstrate compliance with this subpart need only to be sent to the EPA Region or the State which has been delegated authority according to §60.4(b).

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

Subpart A reference	Applies to subpart OOO	Explanation
60.4, Address	Yes	Except in §60.4(a) and (b) submittals need not be submitted to both the EPA Region and delegated State authority (§60.676(k)).
60.7, Notification and recordkeeping	Yes	Except in (a)(1) notification of the date construction or reconstruction commenced (§60.676(h)).
		Also, except in (a)(6) performance tests involving only Method 9 (40 CFR part 60, Appendix A–4) require a 7-day advance notification instead of 30 days (§60.675(g)).
60.8, Performance tests	Yes	Except in (d) performance tests involving only Method 9 (40 CFR part 60, Appendix A–4) require a 7-day advance notification instead of 30 days (§60.675(g)).
60.11, Compliance with standards and maintenance requirements	Yes	Except in (b) under certain conditions (§60.675(c)), Method 9 (40 CFR part 60, Appendix A–4) observation is reduced from 3 hours to 30 minutes for fugitive emissions.

60.18, General control device	No	Flares will not be used to comply with the emission limits.
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**Table 2 to Subpart OOO—Stack Emission Limits for Affected Facilities With Capture Systems**

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

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

<sup>b</sup>The stack opacity limit and associated opacity testing requirements do not apply for affected facilities using wet scrubbers.

**Table 3 to Subpart OOO—Fugitive Emission Limits**

For * * *	The owner or operator must meet the following fugitive emissions limit for grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility (as defined in §§60.670 and 60.671) * * *	The owner or operator must meet the following fugitive emissions limit for crushers at which a capture system is not used * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in §§60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008	10 percent opacity	15 percent opacity	An initial performance test according to §60.11 of this part and §60.675 of this subpart.
Affected facilities (as defined in §§60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	7 percent opacity	12 percent opacity	An initial performance test according to §60.11 of this part and §60.675 of this subpart; and Periodic inspections of water sprays according to §60.674(b) and §60.676(b); and
			A repeat performance test according to §60.11 of this part and §60.675 of this subpart within 5 years from the previous performance test for

			fugitive emissions from affected facilities without water sprays. Affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in §60.674(b) and §60.676(b) are exempt from this 5-year repeat testing requirement.
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**Indiana Department of Environmental Management  
Office of Air Quality**

**Technical Support Document (TSD) for  
Federally Enforceable State Operating Permit Renewal**

**Source Background and Description**

Source Name:	Walsh and Kelly, Inc.
Source Location:	24358 State Road 23, South Bend, Indiana 46614
County:	St. Joseph
SIC Code:	2951
Permit Renewal No.:	141-27354-03219
Permit Reviewer:	Jack Harmon

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Walsh and Kelly, Inc. relating to the operation of a portable drum mix asphalt plant. As part of the renewal, OAQ has changed the source status from portable to stationary, since the plant has not been relocated during the permit term of the FESOP Renewal No.141-17736-03219, issued October 25, 2004. To maintain a portable status, as described in 326 IAC 2-1.1-1(15), the portable source must be relocated at least once in a permit term. Pursuant to 326 IAC 2-1.1-1(15), the source no longer meets the definition for a portable source. Therefore, this source shall hereinafter be considered a stationary source, together with all the Rules applicable to stationary sources. This source uses slag in its aggregate mix.

**History**

On January 12, 2009, Walsh and Kelly, Inc. submitted an application to the OAQ requesting to renew its operating permit. Walsh and Kelly, Inc. was issued its first FESOP Renewal No.141-17736-03219 on October 25, 2004. Walsh and Kelly, Inc. was issued its original FESOP, No.141-9888-03219, on May 14, 1999.

**Permitted Emission Units and Pollution Control Equipment**

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

- (a) One (1) hot asphalt drum rotary dryer/mixer, identified as 46P, capable of processing 400 tons per hour of raw material, equipped with one (1) 115 million British thermal units (MMBtu) per hour natural gas fired burner using No. 2 distillate fuel oil and re-refined waste fuel oil as backup fuels, controlling particulate emissions with one (1) rotary air/reverse air baghouse, exhausting at one (1) stack, identified as S-1, using slag in its aggregate mix;

Under NSPS Subpart I, the drum rotary dryer/mixer, 46P, is considered an affected facility.

- (b) One (1) tertiary crusher, with a maximum capacity of 300 tons per hour, using water spray for fugitive particulate emissions control;

Under NSPS Subpart OOO, the tertiary crusher is considered an affected facility.

- (c) Four (4) 20,000 gallon liquid asphalt storage tanks;
- (d) One (1) 15,000 gallon No. 2 fuel oil storage tank;
- (e) One (1) 20,000 gallon re-refined waste oil storage tank; and
- (f) Cold-mix (stockpile mix) asphalt storage piles.

### **Emission Units and Pollution Control Equipment Constructed and/or Operated without a Permit**

- (a) There are no emission units or pollution control control equipment being operated without a permit at this source.

### **Emission Units and Pollution Control Equipment Removed From the Source**

- (a) There are no emission units or pollution control control equipment that have been removed from this source.

### **Insignificant Activities**

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million BTU per hour:
  - (1) one (1) natural gas fired hot oil heater, identified as C-2, with a maximum rated heat input capacity of 2.256 MMBtu/hr, using No. 2 distillate fuel oil as backup fuel; and
  - (2) one (1) natural gas fired inert gas generator, identified as C-3, with a maximum rated heat input capacity of 0.0228 MMBtu/hr;
- (b) Combustion source flame safety purging on startup;
- (c) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (d) Paved and unpaved roads and parking lots with public access;
- (e) One (1) hot mix slat conveyor;
- (f) Four (4) aggregate conveyors;
- (g) One (1) 4' X 14' double deck aggregate screen;
- (h) Two (2) recycled asphalt conveyors;
- (i) One (1) 4' X 8' recycled asphalt screen;
- (j) Nine (9) aggregate feeder bins, each with a capacity of 32 tons;
- (k) One (1) recycled asphalt feeder bin, with a capacity of 32 tons;
- (l) Four (4) surge silos, each with a capacity of 300 tons; and
- (m) One (1) dust silo, using one (1) jetpulse baghouse for controlling particulate emissions, exhausting at one (1) stack, identified as S-2.

Under NSPS Subpart OOO, the dust silo is considered an affected facility.

### **Existing Approvals**

Since the issuance of the First FESOP Renewal (F141-17736-03219) on October 25, 2004, there have been no other approvals issued to this source.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

The following terms and conditions from previous approvals have been determined no longer applicable; therefore, were not incorporated into this FESOP Renewal:

(a) Applicability of State Rule 326 IAC 6-1-2 (Particulate Emissions Limitations)

Reason not incorporated: 326 IAC 6-1-2 (Particulate Emissions Limitations) was repealed on August 10, 2005 by the Air Pollution Control Board (ref: 28 IR 3550), and was replaced by 326 IAC 6.5-1-2 (Particulate Matter Emissions Limitations) on August 10, 2005 (ref: 28 IR 3550).

(b) All references to Local Agencies.

Reason not incorporated: Local agencies no longer have effective authority to implement state and federal requirements for IDEM. Therefore, IDEM has removed all references to local agencies.

(b) Portable Source References.

Reason not incorporated: This source was originally permitted as a portable source, with its initial location in St. Joseph County. Rule 326 IAC 2-1.1-1(15) requires a portable source to be relocated at least one (1) time during its permit term. Since the issuance of FESOP No.141-9888-03219 issued on May 14, 1999, and the subsequent FESOP Renewal No.141-17736-03219 issued on October 25, 2004, the source has never been relocated and continues to operate at its initial location. Pursuant to 326 IAC 2-1.1-1(15), the source no longer meets the definition for a portable source. Therefore, this source shall hereinafter be considered a stationary source, together with all the Rules applicable to stationary sources.

The revised permit specifies that all reports, notices, applications, and any other required submittals shall be submitted to IDEM. The Permittee should note that a local agency could have its own requirements beyond the state and federal requirements contained in the permit. Please contact the local agency for further information.

### Enforcement Issue

There are no enforcement actions pending.

### Emission Calculations

See Appendix A of this document for detailed emission calculations.

### County Attainment Status

The source is located in St. Joseph County

Pollutant	Designation
SO <sub>2</sub>	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O <sub>3</sub>	Attainment effective July 19, 2007, for the 8-hour ozone standard. <sup>1</sup>
PM <sub>10</sub>	Unclassifiable effective November 15, 1990.
NO <sub>2</sub>	Cannot be classified or better than national standards.
Pb	Not designated.

<sup>1</sup>Attainment effective October 18, 2000, for the 1-hour ozone standard for the South Bend-Elkhart area, including St. Joseph County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X\*. The 1-hour standard was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM<sub>2.5</sub>.

- (a) Ozone Standards
- (1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
  - (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, and St. Joseph as attainment for the 8-hour ozone standard.
  - (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.
  - (4) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. St Joseph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) St. Joseph County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15<sup>th</sup>, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.
- (c) Other Criteria Pollutants  
St. Joseph County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (d) Fugitive Emissions  
This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

### Unrestricted Potential Emissions

Appendix A of this TSD reflects the unrestricted potential emissions of the source.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM, PM10, PM2.5, SO2, and CO is equal to or greater than 100 tons per year. The source is subject to the provisions of 326 IAC 2-7. However, the source has agreed to limit their PM, PM10, PM2.5, SO2, and CO emissions to less than Title V levels, therefore the source will be issued a FESOP Renewal.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than 100 tons per year.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. However, the source has agreed to limit their single HAP emissions and total HAP emissions below Title V limits. Therefore, the source will be issued a FESOP Renewal.

This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

**Potential to Emit After Issuance**

The source has opted to remain a FESOP source. The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this FESOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit (tons/year)							
	PM	PM <sub>10</sub> <sup>*</sup>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	Total HAPs
Dryer, 46P, Fuel Combustion, with baghouse	27.41	21.84	21.84	38.48	95.67	2.77	42.29	6.51 (5.23 HCl)
Dryer, 46P, Process, with baghouse	53.21 <sup>a</sup>	86.25	86.25	38.50	41.25	24.00	97.49	7.99 (2.32 formaldehyde)
Dryer, 46P, Slag Processing, with baghouse	0.00	0.00	0.00	55.50	0.00	0.00	0.00	0.00
Nat. Gas Inert Gas Generator	1.9E-04	7.59E-04	7.59E-04	5.99E-05	9.99E-03	5.49E-04	8.39E-03	1.89E-04 (1.40E-07 chromium)
Hot Oil Heater	0.14	0.23	0.23	5.01	1.41	0.05	0.83	0.018
<b>Worst Case Emissions</b>	<b>53.35</b>	<b>86.48</b>	<b>86.48</b>	<b>99.01</b>	<b>97.09</b>	<b>24.05</b>	<b>98.33</b>	<b>8.02</b> <b>(5.25 HCl)</b>
Fugitive Emissions								
Asphalt Loadout, Silo Filling, and Yard	0.57	0.57	0.57	0.00	0.00	5.79	1.05	0.10
Storage Piles	0.92	0.32	0.32	0.00	0.00	0.00	0.00	0.10
Material Processing and Handling	4.79	2.27	0.34	0.00	0.00	0.00	0.00	0.00
Material Processing - Crusher, with water spray	3.81	1.69	1.69	0.00	0.00	0.00	0.00	0.00
Screening and Conveying	19.74	6.91	6.91	0.00	0.00	0.00	0.00	0.00
Paved and Unpaved Roads	2.58	0.66	0.07	0.00	0.00	0.00	0.00	0.00
Cold Mix Asphalt	0.00	0.00	0.00	0.00	0.00	68.73	0.00	0.00
Volatile Organic Liquid Storage Vessels	0.00	0.00	0.00	0.00	0.00	negl	0.00	negl
<b>Total Fugitive Emissions</b>	<b>32.41</b>	<b>12.42</b>	<b>9.90</b>	<b>0.00</b>	<b>0.00</b>	<b>74.52</b>	<b>1.05</b>	<b>0.20</b>
<b>Total Emissions</b>	<b>85.77</b>	<b>98.90</b>	<b>96.38</b>	<b>99.01</b>	<b>97.09</b>	<b>98.57</b>	<b>99.38</b>	<b>8.22</b> <b>(5.25 HCl)</b>
<b>PSD Threshold</b>	<b>250.0</b>	<b>250.0</b>	<b>250.0</b>	<b>250.0</b>	<b>250.0</b>	<b>250.0</b>	<b>250.0</b>	<b>NA</b>
<b>Title V Threshold</b>	<b>NA</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>10 for single HAP and 25 for total HAPs</b>

negl. = negligible

\* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated pollutant".

<sup>a</sup> Limit based on 326 IAC 6.5-7-18 (Particulate Matter Emission Limitations for Walsh and Kelly in St. Joseph County)

- (a) This existing stationary source is not major for PSD because the emissions of each criteria pollutant are less than two hundred fifty (<250) tons per year, and it is not one of the twenty-eight (28) listed source categories.

- (b) Fugitive Emissions  
This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

### Federal Rule Applicability

#### New Source Performance Standards (NSPS)

- (a) This source is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.90, Subpart I) because it meets the definition of a hot mix asphalt facility pursuant to the rule and was constructed after the June 11, 1973 rule applicability date. This rule limits particulate matter emissions to 0.04 grains per dry standard cubic foot (gr/dscf) and also limits visible emissions to 20% opacity. The source will comply with this rule by operating the baghouse at all times that the operation is running to limit particulate matter emissions to less than 0.04 gr/dscf.
- (b) The one (1) tertiary rock crusher is subject to the New Source Performance Standard 326 IAC 12, 40 CFR 60.670 through 60.676, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants). This rule applies to stack emissions from nonmetallic mineral processing facilities. Pursuant to this rule, the particulate emissions from any crushing operation and conveying operation, at which capture systems are not used, shall be limited to fifteen percent (15%) opacity or less and ten percent (10%) opacity or less, respectively.
- (c) The four (4) 20,000 gallon liquid asphalt storage tanks and the one (1) 20,000 gallon re-refined waste oil fuel tank, are not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.110b, Subpart Kb) (Standards of Performance for Volatile Organic Liquid Storage Vessels). Although they were constructed after July 23, 1984, and have a storage capacity greater than 75 cubic meters each, the tanks have a storage capacity greater than 75 cubic meters but less than 151 cubic meters each, and the liquid asphalt stored in the tanks, and the re-refined waste oil stored in the tank, have a maximum true vapor pressure of less than 15.0 kPa each. Therefore, pursuant to 40 CFR 60.110b(b), as amended in the October 15, 2003 Federal Register, these tanks are not subject to this rule.
- (d) The one (1) 15,000 gallon No. 2 fuel oil storage tank is not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.110b, Subpart Kb) (Standards of Performance for Volatile Organic Liquid Storage Vessels) since it has a storage capacity of less than 75 cubic meters.
- (e) There no other applicable New Source Performance Standards applicable to this source.

#### National Emissions Standards for Hazardous Air Pollutants (NESHAP)

- (a) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) applicable to this source.
- (b) The requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not applicable to this source. Generally, such requirements apply to a Part 70 source that involves a pollutant-specific emissions unit (PSEU), as defined in 40 CFR 64.1, which meets the following criteria:
- (1) The unit is subject to an emission limitation or standard for an applicable regulated air pollutant;
  - (2) The unit uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard; and
  - (3) The unit has a potential to emit before controls equal to or greater than the applicable Part 70 major source threshold for the regulated pollutant.

As a FESOP source, this source has accepted federally enforceable limits such that the requirements of 326 IAC 2-7 (Part 70) do not apply. Therefore, the requirements of 40 CFR 64, Compliance Assurance Monitoring, are not applicable to this source.

### State Rule Applicability - Entire Source

#### 326 IAC 1-6-3 (Preventive Maintenance Plan)

The source has submitted a Preventive Maintenance Plan (PMP) on June 26, 1998. This PMP has been verified to fulfill the requirements of 326 IAC 1-6-3 (Preventive Maintenance Plan).

#### 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

326 IAC 2-2 is not applicable, since 326 IAC 6.5-7-18 already establishes limits that limit the PM emissions from the entire source to less than 250 tons per twelve (12) consecutive month period. Therefore, 326 IAC 2-2 (PSD) is not applicable.

#### 326 IAC 2-4.1-1 (New Source Toxics Control)

This source has the unlimited potential to emit greater than ten (10) tons per year of a single HAP and twenty-five (25) tons per year of a combination of HAPs, as shown in the Calculations in Appendix A. The source shall limit its potential to emit a single HAP to less than ten (10) tons per year and a combination of HAPs to less than twenty-five (25) tons per year; therefore, this source is not subject to 326 IAC 2-4.1.

#### 326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting) because it is not required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, is not located in Lake, Porter, or LaPorte counties, and does not have the potential to emit greater than five (5) tons of lead per year. Therefore, this FESOP source, located in St. Joseph County, is not subject to 326 IAC 2-6 (Emission Reporting).

#### 326 IAC 2-8-4 (FESOP)

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

- (1) The amount of asphalt processed shall not exceed 1,499,914 tons per twelve (12) consecutive month period with compliance determined at the end of each month. This is a new requirement.
- (2) The amount of slag used shall not exceed 150,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is a new requirement.
- (3) PM10 emissions from the dryer/mixer shall not exceed 0.115 pounds per tons of asphalt produced. This was changed from 0.049 lbs/ton.
- (4) PM2.5 emissions from the dryer/mixer shall not exceed 0.115 pounds per ton of asphalt produced.
- (5) CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt produced.
- (6) VOC emissions shall not exceed 0.032 pounds per ton of asphalt produced.
- (7) SO2 emissions from the use of slag in the dryer/mixer shall not exceed 0.74 pounds SO2 per ton of slag processed. This is a new requirement due to the use of slag.

Compliance with these limits, combined with the limited potential to emit PM10, PM2.5, SO2, and CO from all other emission units, shall limit source-wide potential to emit of PM10, PM2.5, SO2, and CO emissions to less than 100 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Therefore, compliance with these limits will render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-7 (Part 70), and 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable. Note: the previous permit expressed the limit in terms of pound per hour. These are now changed as stated above.

- (b) 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:
- (1) Fuel Content Specifications
    - (A) The sulfur content of the No. 2 fuel oil used shall not exceed five-tenths percent (0.50%) by weight.
    - (B) The sulfur content of the waste oil shall not exceed sixty-six hundredths percent (0.66%) by weight.
    - (C) The HCl emissions shall not exceed 0.0132 pounds of HCl per gallon of waste oil used.
    - (D) The chlorine content of the waste oil shall not exceed two-tenths percent (0.20%) by weight.
  - (2) Pursuant to 326 IAC 2-8-4, the SO<sub>2</sub> emissions from the aggregate mixer/dryer burner shall be limited as follows:
    - (A) The usage of waste oil and waste oil equivalents for the aggregate dryer burner shall not exceed 793,158 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is changed from 1,960,421 gallons per twelve (12) consecutive month period.

For the purpose of determining compliance with this limit:

      - (i) Every 0.1617 MMCF of natural gas shall be equivalent to 1.0 gallons of waste oil based on SO<sub>2</sub> emissions.
      - (ii) Every 1.24 gallons of No. 2 fuel oil shall be equivalent to 1.0 gallons of waste oil based on SO<sub>2</sub> emissions.
    - (B) The usage of No. 2 fuel oil and No. 2 fuel oil equivalents for the aggregate dryer burner shall not exceed 980,379 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

For the purpose of determining compliance with this limit:

      - (i) Every 0.1308 MMCF of natural gas shall be equivalent to 1.0 gallons of No. 2 fuel oil based on SO<sub>2</sub> emissions.
      - (ii) Every 0.81 gallons of waste oil shall be equivalent to 1.0 gallons of No. 2 fuel oil based on SO<sub>2</sub> emissions.
  - (3) Pursuant to 326 IAC 2-8-4, the NO<sub>x</sub> emissions from the aggregate mixer/dryer burner shall be limited as follows:
    - (A) The usage of natural gas and natural gas equivalents for the aggregate dryer burner shall not exceed 1007.0 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month.
    - (B) For the purpose of determining compliance with this limit:
      - (i) Every 1,000 gallons of No. 2 fuel oil shall be equivalent to 0.1263 MMCF of natural gas based on NO<sub>x</sub> emissions.

- (ii) Every 1,000 gallons of used or waste oil shall be equivalent to 0.100 MMCF of natural gas based on NOx emissions.

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 SO<sub>2</sub> 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.

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

Cutback asphalt slow cure liquid binder used in the production of cold mix asphalt shall not exceed 237.8 tons of VOC solvent per twelve (12) consecutive month period. This is equivalent to limiting the VOC emitted from solvent use to 68.73 tons per twelve (12) consecutive month period, based on the following definition:

Cutback asphalt slow cure liquid binder, containing a maximum 20.0% of the liquid binder of VOC solvent and 25% by weight of the VOC solvent evaporating.

326 IAC 5-1 (Opacity Limitations)

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

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

This source is located in St. Joseph County, but is not located in a specific area north of Kern Road and East of Pine Road, as described in 326 IAC 5-1-1(c)(6). Therefore, the requirements of 326 IAC 5-1-2(2) do not apply.

326 IAC 6.5-1-2 (Particulate Matter Emissions Limitations)

- (a) The source is not subject to the requirements of 326 IAC 6.5-1-2 (Particulate Matter Emissions Limitations) because this source is specifically listed as an affected source in 326 IAC 6.5-7-18.

326 IAC 6.5-7-18 (Particulate Matter Emission Limitations for Walsh and Kelly in St. Joseph County)

This source is subject to 326 IAC 6.5-7-18 because it specifically lists this source in this rule for the rotary dryer, 46P. Pursuant to 326 IAC 6.5-7-18, particulate matter emissions from the rotary dryer, 46P, shall not exceed the following limits. This requirement replaces the existing 0.03 gr/dscf specified in the existing permit.

Emission Unit	PM Limit	PM Tons Per Year
Rotary dryer, 46P, with baghouse	0.04 gr/dscf	53.22

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

- (a) The aggregate mixing and drying operation is not subject to the requirements of 326 IAC 6-3-2. This rule does not apply if the limitation established in the rule is less stringent than applicable limitations in 326 IAC 6.5-1 or 326 IAC 12. Since the applicable PM emission limits established by 326 IAC 6.5-1-2 and 326 IAC 12, 40 CFR 60, Subpart I, are lower than the PM limit that would be established by 326 IAC 6-3-2, the more stringent limits apply and the limit pursuant to 326 IAC 6-3-2 does not apply.

- (b) The one (1) tertiary rock crusher is not subject to the requirements of 326 IAC 6-3-2. This rule does not apply if the limitation established in the rule is less stringent than applicable limitations in 326 IAC 6.5-1 or 326 IAC 12.

#### 326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2(1), (2) or (3).

#### 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This source is subject to 326 IAC 6-5 for fugitive particulate matter emissions. Pursuant to 326 IAC 6-5, for any new source which has not received all the necessary preconstruction approvals before December 13, 1985, a fugitive dust control plan must be submitted, reviewed and approved. The fugitive dust control plan for this source includes the following:

- (a) Aggregate storage piles will be watered when dust can be observed blowing from the piles. Water will be applied at a rate of 275 gallons of water per acre of storage piles or greater if needed to suppress dust.
- (b) The plant roadways will be watered when dust can be observed coming up from the road upon vehicular passage. Water will be applied at a rate of 3 gallons of water per mile of roadway, or greater if needed to suppress dust.

#### 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The dryer/mixer burner is subject to 326 IAC 7-1.1 because it has the potential SO<sub>1</sub> emissions of greater than 25 tons per year. Pursuant to this rule, sulfur dioxide emissions from the dryer/mixer burner shall be limited as follows:

- (a) Five-tenths (0.5) pounds per MMBtu for distillate oil combustion (including No. 2 fuel oil);
- (b) One and six-tenths (1.6) pounds per MMBtu heat input for residual oil (including refinery blend fuel oil and waste oil) combustion.

The 2.256 MMBtu/hr hot oil heater and the 0.0228 MMBtu/hr inert gas generator are not subject to the requirements of this rule because potential SO<sub>2</sub> emissions from each of these units is less than 25 tons per year.

#### 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements)

This source is subject to 326 IAC 7-2-1 (Reporting Requirements) because it has a potential to emit greater than twenty-five (25) tons per year of sulfur dioxide. This rule requires the source to submit to the Office of Air Quality upon request records of sulfur content, heat content, fuel consumption, and sulfur dioxide emission rates based on a calendar-month average.

#### 326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

This source is not subject to the provisions of 326 IAC 8-1-6. This rule requires all facilities constructed after January 1, 1980, which have potential VOC emission rates of greater than or equal to 25 tons per year, and which are not otherwise regulated by other provisions of 326 IAC 8, to reduce VOC emissions using Best Available Control Technology (BACT). This source was constructed after January 1, 1980 and has unlimited potential VOC emissions from the dryer/mixer of more than 25 tons per year; however, the source has chosen to limit its VOC emissions to 0.032 pounds per ton of asphalt produced from the dryer/mixer, or 24.0 tons per year, rendering 326 IAC 8-1-6 not applicable.

#### 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)

The storage tanks at this source are not subject to 326 IAC 8-4-3 because the tanks have storage capacities less than 39,000 gallons each.

#### 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving)

This rule applies to any paving application anywhere in the state. No person shall cause or allow the use of cutback asphalt or asphalt emulsion containing more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:

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

This source uses liquid asphalt binder to manufacture stockpile mix for stockpile storage. Therefore, there is no limit on the percent (%) of oil distillate in the liquid asphalt used. The source is in compliance with 326 IAC 8-5-2.

### **Compliance Determination and Monitoring Requirements**

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

In order to ensure compliance with the PM limit, the Permittee shall perform PM testing of the dryer/mixer utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. The most recent valid compliance test was June 11, 2003. The source was scheduled to test August 25, 2009, but no information is available. June 11, 2003 remains the most recent valid compliance demonstration.

In order to demonstrate compliance with the PM<sub>2.5</sub> and PM<sub>10</sub> limits, the Permittee shall perform PM<sub>2.5</sub> and PM<sub>10</sub> testing on the dryer/mixer within 180 days of publication of the new or revised condensible 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 (PM<sub>2.5</sub>), signed on May 8th, 2008, or five (5) years from the most recent valid compliance stack 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. PM<sub>10</sub> and PM<sub>2.5</sub> includes filterable and condensible PM.

In order to demonstrate compliance with the SO<sub>2</sub> limits, the Permittee shall perform testing on Stack EP-1 within 180 days of the issuance of the permit. 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.

The compliance monitoring requirements applicable to this source are as follows:

Control	Parameter	Frequency	Range	Excursions and Exceedances
Rotary dryer/mixer, 46P, baghouse	Water Pressure Drop	Daily when operating	2.0 to 8.0 inches of water	Response Steps
	Visible Emissions		Normal-Abnormal	
	Visible Emissions		Normal-Abnormal	

These monitoring conditions are necessary because the baghouse for the asphalt drum mixer burner must operate properly to ensure compliance with 326 IAC 6.5-7-18 (Particulate Emissions Limitations for Walsh and Kelly in St. Joseph County), 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (PSD).

**Recommendation**

The staff recommends to the Commissioner that the Second FESOP Renewal be approved. This recommendation is based on the following facts and conditions:

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 12, 2009. Additional information was received on July 23, 2009.

**Conclusion**

The operation of this stationary drum mix asphalt plant shall be subject to the conditions of the attached FESOP Renewal No.141-27354-03219.

**IDEM Contact**

- (a) Questions regarding this proposed permit can be directed to Jack Harmon 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) 233-4228 or toll free at 1-800-451-6027 extension 3-4228.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.idem.in.gov](http://www.idem.in.gov)

**Appendix A.1: Emissions Calculations  
Unlimited Emission Summary**

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Reviewer:** Jack Harmon

**Asphalt Plant Maximum Capacity**

Maximum Hourly Asphalt Production =	400	ton/hr								
Maximum Annual Asphalt Production =	3,504,000	ton/yr								
Maximum Annual Slag Usage =	700,800	ton/yr	1.50	% sulfur						
Maximum Dryer Fuel Input Rate =	115	MMBtu/hr								
Natural Gas Usage =	1,007	MMCF/yr								
No. 2 Fuel Oil Usage =	7,195,714	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage =		gal/yr, and		% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage =		gal/yr, and		% sulfur						
Propane Usage =		gal/yr, and		gr/100 ft <sup>3</sup> sulfur						
Butane Usage =		gal/yr, and		gr/100 ft <sup>3</sup> sulfur						
Used/Waste Oil Usage =	7,195,714	gal/yr, and	0.66	% sulfur	1.08	% ash	0.200	% chlorine,	0.010	% lead
Diesel Engine Oil Usage =		gal/yr, and								
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production								
Unlimited PM <sub>10</sub> Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production								
Unlimited PM <sub>2.5</sub> 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 Slag SO <sub>2</sub> Dryer/Mixer Emission Factor =	0.74	lb/ton of slag processed								

**Unlimited/Uncontrolled Emissions**

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants							Hazardous Air Pollutants		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NOx	VOC	CO	Total HAP	Worst Case HAP	
<b>Ducted Emissions</b>										
Dryer, 46P, Fuel Combustion (worst case)	230.26	183.49	183.49	528.89	95.70	3.60	42.31	50.31	47.49	(hydrogen chloride)
Dryer/Mixer, 46P, (Process)	49056.00	11388.00	2628.00	101.62	96.36	56.06	227.76	18.68	5.43	(formaldehyde)
Dryer/Mixer, 46P, Slag Processing	0.00	0.00	0.00	259.30	0.00	0.00	0.00	0.00	0.00	
Natural Gas-fired Inert Gas Generator	1.90E-04	7.59E-04	7.59E-04	5.99E-05	9.99E-03	5.49E-04	8.39E-03	1.89E-04	1.80E-04	(hexane)
Hot Oil Heater Fuel Combustion (worst case)	0.14	0.23	0.23	5.01	1.41	0.05	0.83	0.023	0.018	(hexane)
<b>Worst Case Emissions*</b>	<b>49,056.14</b>	<b>11,388.23</b>	<b>2,628.23</b>	<b>793.19</b>	<b>97.78</b>	<b>56.12</b>	<b>228.60</b>	<b>50.33</b>	<b>47.49</b>	(hydrogen chloride)
<b>Fugitive Emissions</b>										
Asphalt Load-Out, Silo Filling, On-Site Yard	1.33	1.33	1.33	0.00	0.00	13.53	2.46	0.22	0.07	(formaldehyde)
Material Storage Piles	0.51	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00	
Material Processing and Handling	25.29	11.96	1.81	0.00	0.00	0.00	0.00	0.00	0.00	
Material Processing - Crusher	8.89	3.95	3.95	0.00	0.00	0.00	0.00	0.00	0.00	
Material Screening, and Conveying	46.11	16.14	16.14	0.00	0.00	0.00	0.00	0.00	0.00	
Unpaved and Paved Roads (worst case)	24.89	6.34	0.63	0.00	0.00	0.00	0.00	0.00	0.00	
Cold Mix Asphalt Production	0.00	0.00	0.00	0.00	0.00	12264.00	0.00	23.3	8.58	(xylenes)
Gasoline Fuel Transfer and Dispensing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(xylenes)
Volatile Organic Liquid Storage Vessels	0.00	0.00	0.00	0.00	0.00	negl	0.00	negl	0.00	
<b>Total Fugitive Emissions</b>	<b>107.02</b>	<b>39.91</b>	<b>24.05</b>	<b>0</b>	<b>0.00</b>	<b>12277.53</b>	<b>2.46</b>	<b>23.53</b>	<b>8.65</b>	(xylenes)
<b>Totals Unlimited/Uncontrolled PTE</b>	<b>49,163.17</b>	<b>11,428.14</b>	<b>2,652.28</b>	<b>793.19</b>	<b>97.78</b>	<b>12,333.65</b>	<b>231.06</b>	<b>73.86</b>	<b>47.49</b>	(hydrogen chloride)

negl = negligible

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

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

Fuel component percentages provided by the source.

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

Company Name: **Walsh & Kelly, Inc.**  
 Source Address: **24358 State Road 23, South Bend, Indiana 46614**  
 Permit Number: **F141-27354-03219**  
 Reviewer: **Jack Harmon**

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

**Maximum Capacity**

Maximum Hourly Asphalt Production =	400	ton/hr																
Maximum Annual Asphalt Production =	3,504,000	ton/yr																
Maximum Fuel Input Rate =	115	MMBtu/hr																
Natural Gas Usage =	1,007	MMCF/yr																
No. 2 Fuel Oil Usage =	7,195,714	gal/yr, and	0.50	% sulfur														
No. 4 Fuel Oil Usage =		gal/yr, and		% sulfur														
Residual (No. 5 or No. 6) Fuel Oil Usage =		gal/yr, and		% sulfur														
Propane Usage =		gal/yr, and		gr/100 ft3 sulfur														
Butane Usage =		gal/yr, and		gr/100 ft3 sulfur														
Used/Waste Oil Usage =	7,195,714	gal/yr, and	0.66	% sulfur	1.08	% ash	0.200	% chlorine	0.010	% lead								
Diesel Engine Oil Usage =		gal/yr, and																

**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)	Diesel Engine (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)	Diesel Engine (tons/yr)	Worse Case Fuel (tons/yr)	
PM	1.9	2.0						64.0	0.96	7.20							230.26	
PM <sub>10</sub> /PM <sub>2.5</sub>	7.6	3.3						51	3.83	11.87							183.49	
SO <sub>2</sub>	0.6	78.5						147.0	0.30	282.43							528.89	
NOx	190	24.0						19.0	95.70	86.35							68.36	
VOC	5.5	0.20						1.0	2.77	0.72							3.60	
CO	84	5.0						5.0	42.3108	17.99							17.99	
<b>Hazardous Air Pollutant</b>																		
HCl								13.2									47.49	
Antimony								negl									negl	
Arsenic	2.0E-04	5.6E-04						1.1E-01	1.0E-04	2.01E-03							3.96E-01	
Beryllium	1.2E-05	4.2E-04						negl	6.0E-06	1.51E-03							1.51E-01	
Cadmium	1.1E-03	4.2E-04						9.3E-03	5.5E-04	1.51E-03							3.35E-02	
Chromium	1.4E-03	4.2E-04						2.0E-02	7.1E-04	1.51E-03							7.20E-02	
Cobalt	8.4E-05							2.1E-04	4.2E-05								7.56E-04	
Lead	5.0E-04	1.3E-03						1.87E-01	2.5E-04	4.53E-03							6.73E-01	
Manganese	3.8E-04	8.4E-04						6.8E-02	1.9E-04	3.02E-03							2.45E-01	
Mercury	2.6E-04	4.2E-04							1.3E-04	1.51E-03							1.51E-03	
Nickel	2.1E-03	4.2E-04						1.1E-02	1.1E-03	1.51E-03							3.96E-02	
Selenium	2.4E-05	2.1E-03						negl	1.2E-05	7.56E-03							7.56E-03	
1,1,1-Trichloroethane																	0.00E+00	
1,3-Butadiene																	0.00E+00	
Acetaldehyde																	0.00E+00	
Acrolein																	0.00E+00	
Benzene	2.1E-03								1.1E-03								1.06E-03	
Bis(2-ethylhexyl)phthalate								2.2E-03						7.92E-03			7.92E-03	
Dichlorobenzene	1.2E-03							8.0E-07	6.0E-04					2.88E-06			6.04E-04	
Napthalene								1.3E-02						4.68E-02			4.68E-02	
Formaldehyde	7.5E-02	6.10E-02							3.8E-02	2.19E-01							2.19E-01	
Hexane	1.8E+00								0.91								9.07E-01	
Phenol								2.4E-03						8.63E-03			8.63E-03	
Toluene	3.4E-03								1.7E-03								1.71E-03	
Total PAH Haps	negl							3.9E-02	negl					1.41E-01			1.41E-01	
Polycyclic Organic Matter		3.30E-03								1.19E-02							1.19E-02	
Xylene																	0.00E+00	
<b>Total HAP</b>									0.95	0.26	0	0	0	0	0	49.15	0	5.03E+01

**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]

**Abbreviations**

PM = Particulate Matter  
 PM<sub>10</sub> = Particulate Matter (≤10 μm)  
 PM<sub>2.5</sub> = Particulate Matter (≤2.5 μm)  
 SO<sub>2</sub> = Sulfur Dioxide  
 NOx = Nitrous Oxides  
 VOC = Volatile Organic Compounds  
 CO = Carbon Monoxide  
 HAP = Hazardous Air Pollutant  
 HCl = Hydrogen Chloride  
 PAH = Polyaromatic Hydrocarbon

Sources of AP-42 Emission Factors for fuel combustion:

- Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
- No. 2, No.4, and No.6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
- Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM<sub>10</sub>)
- 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
- Diesel Engine Oil: AP-42 Chapter 3.3 (dated 10/96), Tables 3.3-1 and 3.3-2

\*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: Emissions Calculations****Dryer/Mixer  
Unlimited Process Emissions**

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Reviewer:** Jack Harmon

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

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

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	28	28	28	49056	49056	49056	<b>49,056</b>
PM <sub>10</sub> *	6.5	6.5	6.5	11388	11388	11388	<b>11,388</b>
PM <sub>2.5</sub> *	1.5	1.5	1.5	2628	2628	2628	<b>2,628</b>
SO <sub>2</sub> **	0.0034	0.011	0.058	6.0	19.3	101.6	<b>101.6</b>
NO <sub>x</sub> **	0.026	0.055	0.055	45.6	96.4	96.4	<b>96.4</b>
VOC**	0.032	0.032	0.032	56.1	56.1	56.1	<b>56.1</b>
CO***	0.13	0.13	0.13	227.8	227.8	227.8	<b>227.8</b>
<b>Hazardous Air Pollutant</b>							
HCl			2.10E-04			3.68E-01	<b>0.368</b>
Antimony	1.80E-07	1.80E-07	1.80E-07	3.15E-04	3.15E-04	3.15E-04	<b>3.15E-04</b>
Arsenic	5.60E-07	5.60E-07	5.60E-07	9.81E-04	9.81E-04	9.81E-04	<b>9.81E-04</b>
Beryllium	negl	negl	negl	negl	negl	negl	<b>0</b>
Cadmium	4.10E-07	4.10E-07	4.10E-07	7.18E-04	7.18E-04	7.18E-04	<b>7.18E-04</b>
Chromium	5.50E-06	5.50E-06	5.50E-06	9.64E-03	9.64E-03	9.64E-03	<b>0.01</b>
Cobalt	2.60E-08	2.60E-08	2.60E-08	4.56E-05	4.56E-05	4.56E-05	<b>4.56E-05</b>
Lead	6.20E-07	1.50E-05	1.50E-05	1.09E-03	2.63E-02	2.63E-02	<b>0.026</b>
Manganese	7.70E-06	7.70E-06	7.70E-06	1.35E-02	1.35E-02	1.35E-02	<b>0.013</b>
Mercury	2.40E-07	2.60E-06	2.60E-06	4.20E-04	4.56E-03	4.56E-03	<b>0.005</b>
Nickel	6.30E-05	6.30E-05	6.30E-05	0.11	0.11	0.11	<b>0.11</b>
Selenium	3.50E-07	3.50E-07	3.50E-07	6.13E-04	6.13E-04	6.13E-04	<b>6.13E-04</b>
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.07	0.07	0.07	<b>0.07</b>
Acetaldehyde			1.30E-03			2.28	<b>2.28</b>
Acrolein			2.60E-05			4.56E-02	<b>0.05</b>
Benzene	3.90E-04	3.90E-04	3.90E-04	0.68	0.68	0.68	<b>0.68</b>
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.42	0.42	0.42	<b>0.42</b>
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	5.43	5.43	5.43	<b>5.43</b>
Hexane	9.20E-04	9.20E-04	9.20E-04	1.61	1.61	1.61	<b>1.61</b>
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.08	0.08	0.08	<b>0.08</b>
MEK			2.00E-05			0.04	<b>0.04</b>
Propionaldehyde			1.30E-04			0.23	<b>0.23</b>
Quinone			1.60E-04			0.28	<b>0.28</b>
Toluene	1.50E-04	2.90E-03	2.90E-03	0.26	5.08	5.08	<b>5.08</b>
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.33	1.54	1.54	<b>1.54</b>
Xylene	2.00E-04	2.00E-04	2.00E-04	0.35	0.35	0.35	<b>0.35</b>

**Total HAP = 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, PM<sub>10</sub>, and PM<sub>2.5</sub> 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, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions.

\*\* SO<sub>2</sub>, NO<sub>x</sub>, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.

develop single CO emission factor.

**Abbreviations**

VOC - Volatile Organic Compounds

HCl = Hydrogen Chloride

SO<sub>2</sub> = Sulfur Dioxide

HAP = Hazardous Air Pollutant

PAH = Polyaromatic Hydrocarbon

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

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Reviewer:** Jack Harmon

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

Maximum Annual Slag Usage\* =  ton/yr  % sulfur

	Emission Factor (lb/ton)**	Unlimited Potential to Emit (tons/yr)
Criteria Pollutant	Slag Processing	Slag Processing
SO <sub>2</sub>	0.74	259.3

**Methodology**

\* The maximum annual slag usage was provided by the source as approximately 20% of the aggregate material usage.

\*\* Testing results for 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 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%.

Unlimited Potential to Emit SO<sub>2</sub> from Slag (tons/yr) =  
 [(Maximum Annual Slag Usage (ton/yr)) \* [Emission Factor (lb/ton)] \* [ton/2000 lbs]

**Abbreviations**

SO<sub>2</sub> = Sulfur Dioxide



**Appendix A.1: Emissions Calculations**  
**Inert Gas Generator**  
**Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**  
**Unlimited Emissions**

**Company Name:** Walsh & Kelly, Inc.  
**Source Location:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Reviewer:** Jack Harmon

Maximum Generator Fuel Input Rate =  MMBtu/hr      Pounds PM / MMBtu =   
 Natural Gas Usage =  MMcF/yr  
 No. 2 Fuel Oil Usage =  gal/yr, and  % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0.000	0.000	<b>0.0002</b>
PM <sub>10</sub> /PM <sub>2.5</sub>	7.6	3.3	0.001	0.000	<b>0.0008</b>
SO <sub>2</sub>	0.6	71.0	0.000	0.000	<b>0.0001</b>
NO <sub>x</sub>	100	20.0	0.010	0.000	<b>0.0100</b>
VOC	5.5	0.20	0.001	0.000	<b>0.0005</b>
CO	84	5.0	0.008	0.000	<b>0.0084</b>
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	0.0E+00	2.0E-08	0.00E+00	<b>2.0E-08</b>
Beryllium	1.2E-05	0.0E+00	1.2E-09	0.00E+00	<b>1.2E-09</b>
Cadmium	1.1E-03	0.0E+00	1.1E-07	0.00E+00	<b>1.1E-07</b>
Chromium	1.4E-03	4.2E-04	1.4E-07	0.00E+00	<b>1.4E-07</b>
Cobalt	8.4E-05		8.4E-09		<b>8.4E-09</b>
Lead	5.0E-04	1.3E-03	5.0E-08	0.00E+00	<b>5.0E-08</b>
Manganese	3.8E-04	8.4E-04	3.8E-08	0.00E+00	<b>3.8E-08</b>
Mercury	2.6E-04	4.2E-04	2.6E-08	0.00E+00	<b>2.6E-08</b>
Nickel	2.1E-03	4.2E-04	2.1E-07	0.00E+00	<b>2.1E-07</b>
Selenium	2.4E-05	2.1E-03	2.4E-09	0.00E+00	<b>2.4E-09</b>
Benzene	2.1E-03		2.1E-07		<b>2.1E-07</b>
Dichlorobenzene	1.2E-03		1.2E-07		<b>1.2E-07</b>
Ethylbenzene					<b>0.0E+00</b>
Formaldehyde	7.5E-02	6.10E-02	7.5E-06	0.00E+00	<b>7.5E-06</b>
Hexane	1.8E+00		0.00		<b>1.8E-04</b>
Phenol					<b>0.0E+00</b>
Toluene	3.4E-03		3.4E-07		<b>3.4E-07</b>
Total PAH Haps	negl		negl		<b>0.0E+00</b>
Polycyclic Organic Matter		3.30E-03		0.00E+00	<b>0.0E+00</b>
<b>Total HAP =</b>			<b>1.9E-04</b>	<b>0.0E+00</b>	<b>1.885E-04</b>

**Methodology**

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

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

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) =

$$[\text{Maximum Natural Gas Usage (MMCF/yr)}] * [\text{Emission Factor (lb/MMCF)}] * [\text{ton}/2000 \text{ lbs}]$$

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) =

$$[\text{Maximum Fuel Usage (gals/yr)}] * [\text{Emission Factor (lb/kgal)}] * [\text{kgal}/1000 \text{ gal}] * [\text{ton}/2000 \text{ lbs}]$$

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

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

**Abbreviations**

PM = Particulate Matter

PM<sub>10</sub> = Particulate Matter (<10 µm)

PM<sub>2.5</sub> = Particulate Matter (<2.5 µm)

SO<sub>2</sub> = Sulfur Dioxide

NO<sub>x</sub> = Nitrous Oxides

CO = Carbon Monoxide

VOC - Volatile Organic Compounds

HAP = Hazardous Air Pollutant

HCl = Hydrogen Chloride

PAH = Polyaromatic Hydrocarbon

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

**Company Name: Walsh & Kelly, Inc.  
Source Address: 24358 State Road 23, South Bend, Indiana 46614  
Permit Number: F141-27354-03219  
Reviewer: Jack Harmon**

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 =	290	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	3,504,000	

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*	3.2E-04	4.4E-04	NA	0.57	0.77	NA	1.33
Organic PM	1.4E-04	1.1E-04	NA	0.25	0.185	NA	0.43
TOC	0.002	0.005	0.001	3.03	8.87	1.927	13.8
CO	0.001	0.000	3.5E-04	0.98	0.859	0.617	2.46

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

<b>PM/HAP</b>	<b>0.018</b>	<b>0.021</b>	<b>0</b>	<b>0.038</b>
<b>VOC/HAP</b>	<b>0.045</b>	<b>0.113</b>	<b>0.028</b>	<b>0.186</b>
<b>non-VOC/HAP</b>	<b>2.3E-04</b>	<b>2.4E-05</b>	<b>1.5E-04</b>	<b>4.1E-04</b>
<b>non-VOC/non-HAP</b>	<b>0.22</b>	<b>0.13</b>	<b>0.14</b>	<b>0.48</b>

<b>Total VOCs</b>	<b>2.85</b>	<b>8.87</b>	<b>1.8</b>	<b>13.5</b>
<b>Total HAP</b>	<b>0.06</b>	<b>0.13</b>	<b>0.029</b>	<b>0.22</b>
		<b>Worst Single HAP</b>		<b>0.066</b>
				<b>(formaldehyde)</b>

#### 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)::

$$\text{Total PM/PM}_{10}/\text{PM}_{2.5} \text{ Ef} = 0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$$

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

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

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

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

$$\text{PM/PM}_{10} \text{ Ef} = 0.000332 + 0.00105(-V)e^{((0.0251)(T+460)-20.43)}$$

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

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

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

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

\*No emission factors available for PM<sub>10</sub> or PM<sub>2.5</sub>, therefore IDEM assumes PM<sub>10</sub> and PM<sub>2.5</sub> are equivalent to Total PM.

#### Abbreviations

PM = Particulate Matter

PM<sub>10</sub> = Particulate Matter (<10 μm)

PM<sub>2.5</sub> = Particulate Matter (<2.5 μm)

HAP = Hazardous Air Pollutant

TOC = Total Organic Compounds

CO = Carbon Monoxide

VOC = Volatile Organic Compound

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

Company Name: Walsh & Kelly, Inc.  
Source Address: 24358 State Road 23, South Bend, Indiana 46614  
Permit Number: F141-27354-03219  
Reviewer: Jack Harmon

**Organic Particulate-Based Compounds (Table 11.1-15)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
<b>PAH HAPs</b>										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	6.5E-04	8.7E-04	NA	1.5E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	6.9E-05	2.6E-05	NA	9.5E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.7E-04	2.4E-04	NA	4.1E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	4.7E-05	1.0E-04	NA	1.5E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.9E-05	0	NA	1.9E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	5.5E-06	0	NA	5.5E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	4.7E-06	0	NA	4.7E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	5.7E-06	0	NA	5.7E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.9E-05	1.8E-05	NA	3.7E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	2.6E-04	3.9E-04	NA	6.4E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	9.2E-07	0	NA	9.2E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.2E-04		NA	1.2E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.9E-03	1.9E-03	NA	3.8E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.2E-06	0	NA	1.2E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	5.9E-03	9.7E-03	NA	0.016
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	3.1E-03	3.4E-03	NA	6.5E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	5.5E-05	5.5E-05	NA	1.1E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	2.0E-03	3.3E-03	NA	5.3E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	3.7E-04	8.1E-04	NA	1.2E-03
<b>Total PAH HAPs</b>							<b>0.015</b>	<b>0.021</b>	<b>NA</b>	<b>0.036</b>
<b>Other semi-volatile HAPs</b>										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.9E-03	0	0	<b>0.003</b>

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

**Organic Volatile-Based Compounds (Table 11.1-16)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	100%	<b>2.85</b>	<b>8.87</b>	<b>1.81</b>	<b>13.53</b>
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	2.0E-01	2.3E-02	1.3E-01	0.345
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.4E-03	4.9E-03	8.9E-04	0.007
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	2.1E-02	9.8E-02	1.4E-02	0.133
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>1.40%</b>	<b>0.221</b>	<b>0.124</b>	<b>0.141</b>	<b>0.49</b>
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.6E-03	2.8E-03	1.0E-03	5.4E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.9E-04	4.3E-04	1.9E-04	9.1E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.5E-03	3.5E-03	9.4E-04	5.9E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	3.9E-04	1.4E-03	2.5E-04	2.1E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	6.4E-06	3.5E-04	4.0E-06	3.7E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	4.5E-04	2.0E-03	2.9E-04	2.8E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	3.3E-03	0	2.1E-03	5.4E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	8.5E-03	3.4E-03	5.4E-03	0.017
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	2.7E-03	6.1E-02	1.7E-03	0.066
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	4.5E-03	8.9E-03	2.9E-03	0.016
Isocotane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	5.4E-05	2.7E-05	3.5E-05	1.2E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.4E-05	0	2.4E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	2.2E-04	4.8E-04	1.4E-04	8.4E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.3E-04	0	1.5E-04	3.8E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	6.4E-03	5.5E-03	4.0E-03	0.016
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	3.9E-05	0	2.5E-05	6.4E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.2E-02	1.8E-02	7.9E-03	0.038
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.4E-03	5.1E-03	1.5E-03	9.0E-03
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>1.30%</b>	<b>0.045</b>	<b>0.115</b>	<b>0.029</b>	<b>0.190</b>

**Methodology**

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

**Abbreviations**

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

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

**Company Name: Walsh & Kelly, Inc.**  
**Source Address: 24358 State Road 23, South Bend, Indiana 46614**  
**Permit Number: F141-27354-03219**  
**Reviewer: Jack Harmon**

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

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM <sub>10</sub> /PM <sub>2.5</sub> (tons/yr)
Limestone	0.5	0.58	0.80	0.084	0.030
Sand	1.0	1.16	1.20	0.253	0.089
RAP	0.5	0.58	1.60		
Gravel	1.0	1.16	1.20		
Slag	1.0	1.16	0.80	0.169	0.059
<b>Totals =</b>			<b>5.60</b>	<b>0.51</b>	<b>0.18</b>

#### Methodology

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

PTE of PM<sub>10</sub>/PM<sub>2.5</sub> (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.

#### Abbreviations

PM = Particulate Matter

PM<sub>10</sub> = Particulate Matter (<10 µm)

PM<sub>2.5</sub> = Particulate Matter (<2.5 µm)

PM<sub>2.5</sub> = PM<sub>10</sub>

PTE = Potential to Emit

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

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Reviewer:** Jack Harmon

**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.

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

where:  $E_f$  = Emission factor (lb/ton)

$k$ (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter $\leq 100 \mu\text{m}$ )
$k$ (PM <sub>10</sub> ) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter $\leq 10 \mu\text{m}$ )
$k$ (PM <sub>2.5</sub> ) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter $\leq 2.5 \mu\text{m}$ )
$U$ =	12	= worst case annual mean wind speed (Source: NOAA, 2006*)
$M$ =	2.6	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
$E_f$ (PM) =	5.12E-03	lb PM/ton of material handled
$E_f$ (PM <sub>10</sub> ) =	2.42E-03	lb PM <sub>10</sub> /ton of material handled
$E_f$ (PM <sub>2.5</sub> ) =	3.67E-04	lb PM <sub>2.5</sub> /ton of material handled

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	6.0%	
Maximum Material Handling Throughput =	3,293,760	tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM <sub>10</sub> (tons/yr)	Unlimited/Uncontrolled PTE of PM <sub>2.5</sub> (tons/yr)
Truck unloading of materials into storage piles	8.43	3.99	0.60
Front-end loader dumping of materials into feeder bins	8.43	3.99	0.60
Conveyor dropping material into dryer/mixer or batch tower	8.43	3.99	0.60
<b>Total (tons/yr)</b>	<b>25.29</b>	<b>11.96</b>	<b>1.81</b>

**Methodology**

The percent asphalt cement/binder provided by the source.

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

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

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

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

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

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM <sub>10</sub> (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM <sub>10</sub> /PM <sub>2.5</sub> (tons/yr)**
Crushing	0.0054	0.0024	8.89	3.95
Screening	0.025	0.0087	41.17	14.33
Conveying	0.003	0.0011	4.94	1.81
<b>Unlimited Potential to Emit (tons/yr) =</b>			<b>55.01</b>	<b>20.09</b>

**Abbreviations**

PM = Particulate Matter  
PM<sub>10</sub> = Particulate Matter (<10  $\mu\text{m}$ )  
PM<sub>2.5</sub> = Particulate Matter (<2.5  $\mu\text{m}$ )  
PTE = Potential to Emit

**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/PM<sub>10</sub> 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 PM<sub>10</sub> = PM<sub>2.5</sub>

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

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Reviewer:** Jack Harmon

**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 %) =	6.0%	
Maximum Material Handling Throughput =	3,293,760	tons/yr
Maximum Asphalt Cement/Binder Throughput =	210,240	tons/yr
Maximum No. 2 Fuel Oil Usage =	7,195,714	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)
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	14.0	26.0	40.00	8.1E+03	3.2E+05	422	0.080	646.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	14.0	0	14.00	8.1E+03	1.1E+05	422	0.080	646.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	25.0	37.00	9.7E+02	3.6E+04	422	0.080	77.8
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	9.7E+02	1.2E+04	422	0.080	77.8
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.0	61.0	61.00	5.4E+04	3.3E+06	158	0.030	1619.9
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.0	0	0.00	5.4E+04	0.0E+00	158	0.030	1619.9
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	13.0	20.0	33.00	1.8E+05	5.8E+06	264	0.050	8760.0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	13.0	0	13.00	1.8E+05	2.3E+06	264	0.050	8760.0
<b>Total</b>					<b>4.8E+05</b>	<b>1.2E+07</b>			<b>2.2E+04</b>

Average Vehicle Weight Per Trip =	24.8	tons/trip
Average Miles Per Trip =	0.060	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	PM <sub>10</sub>	PM <sub>2.5</sub>	
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)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2) Sand/Gravel Processing Plant Road
W =	26.0	26.0	26.0	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)

Unmitigated Emission Factor, $E_f =$	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	lb/mile
Mitigated Emission Factor, $E_{ext} =$	6.82	1.74	0.17	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 PM <sub>10</sub> (tons/yr)	Unmitigated PTE of PM <sub>2.5</sub> (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM <sub>10</sub> (tons/yr)	Mitigated PTE of PM <sub>2.5</sub> (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM <sub>10</sub> (tons/yr)	Controlled PTE of PM <sub>2.5</sub> (tons/yr)
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	2.205	0.562	0.06	1.450	0.370	0.04	0.725	0.185	0.02
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	2.205	0.562	0.06	1.450	0.370	0.04	0.725	0.185	0.02
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.265	0.068	0.01	0.174	0.044	0.00	0.087	0.022	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.265	0.068	0.01	0.174	0.044	0.00	0.087	0.022	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	5.52	1.41	0.14	3.63	0.93	0.09	1.82	0.46	0.05
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	5.52	1.41	0.14	3.63	0.93	0.09	1.82	0.46	0.05
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	29.86	7.61	0.76	19.64	5.00	0.50	9.82	2.50	0.25
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	29.86	7.61	0.76	19.64	5.00	0.50	9.82	2.50	0.25
<b>Totals</b>		<b>75.71</b>	<b>19.30</b>	<b>1.93</b>	<b>49.78</b>	<b>12.69</b>	<b>1.27</b>	<b>24.89</b>	<b>6.34</b>	<b>0.63</b>

**Methodology**

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

**Abbreviations**

PM = Particulate Matter  
 PM<sub>10</sub> = Particulate Matter (<10 μm)  
 PM<sub>2.5</sub> = Particulate Matter (<2.5 μm)  
 PM<sub>2.5</sub> = PM<sub>10</sub>  
 PTE = Potential to Emit

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

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Reviewer:** Jack Harmon

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 %) =	7.0%	
Maximum Asphalt Cement/Binder Throughput =	245,280	tons/yr

**Volatile Organic Compounds**

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Usage (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	0.0%	0.0%	0.0	0.0
Cut back asphalt medium cure (assuming kerosene solvent)	0.0%	0.0%	0.0	0.0
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.00%	49056.0	12264.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	0.0%	0.00%	0.0	0.0
Other asphalt with solvent binder	0.0%	0.00%	0.0	0.0
<b>Worst Case PTE of VOC =</b>				<b>12264.0</b>

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	0.19%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	0.07%	Xylenes
<b>PTE of Total HAP (tons/yr) =</b>	<b>23.30</b>	
<b>PTE of Single HAP (tons/yr) =</b>	<b>8.58</b>	<b>Xylenes</b>

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

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

**Methodology**

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

Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] \* [Maximum Weight % of VOC Solvent in Binder]

PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] \* [Maximum VOC Solvent Usage (tons/yr)]

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

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

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

<http://www.aehs.com/publications/catalog/contents/tph.htm>

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

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

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Reviewer:** Jack Harmon

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:

$$\begin{aligned} \text{Gasoline Throughput} &= \frac{0}{1} \text{ gallons/day} \\ &= 0.0 \text{ kgal/yr} \end{aligned}$$

**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
<b>Total</b>		<b>0.00</b>

**Hazardous Air Pollutants**

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

**Methodology**

The gasoline throughput was provided by the source.

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

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

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

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

\*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tph.htm>

**Abbreviations**

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Appendix A.2: Emissions Calculations  
Limited Emission Summary**

**Company Name: Walsh & Kelly, Inc.  
Source Address: 24358 State Road 23, South Bend, Indiana 46614  
Permit Number: F141-27354-03219  
Date: July 20, 2009  
Reviewer: Jack Harmon**

Asphalt Plant Limitations	
Maximum Hourly Asphalt Production =	400 ton/hr
Annual Asphalt Production Limitation =	1,499,914 ton/yr
Slag Usage Limitation =	150,000 ton/yr
Natural Gas Limitation =	1,007 MMCF/yr
No. 2 Fuel Oil Limitation =	980,379 gal/yr, and 1.50 % sulfur
No. 4 Fuel Oil Limitation =	gal/yr, and 0.50 % sulfur
Residual (No. 5 or No. 6) Fuel Oil Limitation =	gal/yr, and % sulfur
Propane Limitation =	gal/yr, and gr/100 ft <sup>3</sup> sulfur
Butane Limitation =	gal/yr, and gr/100 ft <sup>3</sup> sulfur
Used/Waste Oil Limitation =	793,158 gal/yr, and 0.66 % sulfur, 1.08 % ash, 0.200 % chlorine, 0.010 % lead
Diesel Engine Oil Limitation =	gal/yr, and
PM Dryer/Mixer Limitation =	0.071 lb/ton of asphalt production
PM <sub>10</sub> Dryer/Mixer Limitation =	0.115 lb/ton of asphalt production
PM <sub>2.5</sub> Dryer/Mixer Limitation =	0.115 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
Slag SO <sub>2</sub> Dryer/Mixer Limitation =	0.740 lb/ton of slag processed
Cold Mix Asphalt VOC Usage Limitation =	68.73 tons/yr

Limited/Controlled Emissions	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Hazardous Air Pollutants		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NOx	VOC	CO	Total HAP	Worst Case HAP	
<b>Ducted Emissions</b>										
Dryer, 46P, Fuel Combustion (worst case)	27.41	21.84	21.84	38.48	95.67	2.77	42.29	6.51	5.23	(hydrogen chloride)
Dryer/Mixer, 46P, (Process)	53.21	86.25	86.25	38.50	41.25	24.00	97.49	7.99	2.32	(formaldehyde)
Dryer/Mixer, 46P, Slag Processing	0.00	0.00	0.00	55.50	0.00	0.00	0.00	0.00	0.00	
Natural Gas-fired Inert Gas Generator	1.90E-04	7.59E-04	7.59E-04	5.99E-05	9.99E-03	5.49E-04	8.39E-03	1.89E-04	1.40E-07	(chromium)
Hot Oil Heater Fuel Combustion plus generator (worst case)	0.14	0.23	0.23	5.01	1.41	0.05	0.83	0.02	0.018	(hexane)
<b>Worst Case Emissions*</b>	<b>53.35</b>	<b>86.48</b>	<b>86.48</b>	<b>99.01</b>	<b>97.09</b>	<b>24.05</b>	<b>98.33</b>	<b>8.02</b>	<b>5.25</b>	(hydrogen chloride)
<b>Fugitive Emissions</b>										
Asphalt Load-Out, Silo Filling, and On-Site Yard	0.57	0.57	0.57	0.00	0.00	5.79	1.05	0.10	0.03	(formaldehyde)
Material Storage Piles	0.92	0.32	0.32	0.00	0.00	0.00	0.00	0.10	0.03	
Material Processing and Handling	4.79	2.27	0.34	0.00	0.00	0.00	0.00	0.00	0.00	
Material Processing - Crusher	3.81	1.69	1.69	0.00	0.00	0.00	0.00	0.00	0.00	
Material Screening and Conveying	19.74	6.91	6.91	0.00	0.00	0.00	0.00	0.00	0.00	
Unpaved and Paved Roads (worst case)	2.58	0.66	0.07	0.00	0.00	0.00	0.00	0.00	0.00	
Cold Mix Asphalt Production	0.00	0.00	0.00	0.00	0.00	68.73	0.00	0.00	0.00	(xylenes)
Volatile Organic Liquid Storage Vessels	0.00	0.00	0.00	0.00	0.00	negl	0.00	negl	negl	
<b>Total Fugitive Emissions</b>	<b>32.41</b>	<b>12.42</b>	<b>9.90</b>	<b>0.00</b>	<b>0.00</b>	<b>74.52</b>	<b>1.05</b>	<b>0.20</b>	<b>0.06</b>	(xylenes)
<b>Totals Limited/Controlled Emissions</b>	<b>85.77</b>	<b>98.90</b>	<b>96.38</b>	<b>99.01</b>	<b>97.09</b>	<b>98.57</b>	<b>99.38</b>	<b>8.22</b>	<b>5.25</b>	(hydrogen chloride)

negl = negligible  
 Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.  
 \*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion plus generator  
 Fuel component percentages provided by the source.

**Appendix A.2: Emissions Calculations**  
**Dryer/Burner Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr**  
**Limited Emissions**

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Date:** July 20, 2009  
**Reviewer:** Jack Harmon

The following calculations determine the limited emissions created from the combustion of natural gas, No.2 low-sulfur diesel fuel, or recycled (waste) oil in the mixer/dryer and all other fuel combustion sources at the source.

Production and Fuel Limitations	
Maximum Hourly Asphalt Production =	400 ton/hr
Annual Asphalt Production Limitation =	1,499,914 ton/yr
Natural Gas Limitation =	1,007 MMCF/yr
No. 2 Fuel Oil Limitation =	980,379 gal/yr, and 0.50 % sulfur
No. 4 Fuel Oil Limitation =	gal/yr, and % sulfur
Residual (No. 5 or No. 6) Fuel Oil Limitation =	gal/yr, and % sulfur
Propane Limitation =	gal/yr, and gr/100 ft <sup>3</sup> sulfur
Butane Limitation =	gal/yr, and gr/100 ft <sup>3</sup> sulfur
Used/Waste Oil Limitation =	793,158 gal/yr, and 0.66 % sulfur 1.08 % ash 0.200 % chlorine, 0.010 % lead
Diesel Engine Oil Limitation =	gal/yr, and

Limited Emissions	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)	Diesel Engine (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)	Diesel Engine (tons/yr)	Worse Case Fuel (tons/yr)
Criteria Pollutant																	
PM	1.9	2					69.12		0.96	0.98				27.41			27.41
PM <sub>10</sub> /PM <sub>2.5</sub>	7.6	3.3					55.08		3.83	1.62				21.84			21.84
SO <sub>2</sub>	0.6	78.5					97.02		0.30	38.48				38.48			38.48
NOx	190	24.0					19.0		95.67	11.76				7.54			95.67
VOC	5.5	0.20					1.0		2.77	0.10				0.40			2.77
CO	84	5.0					5.0		42.29	2.45				1.98			42.29
Hazardous Air Pollutant																	
HCl							13.20							5.23			5.23
Antimony							negl							negl			0
Arsenic	2.0E-04	5.6E-04					1.1E-01		1.0E-04	2.75E-04				0.04			0.044
Beryllium	1.2E-05	4.2E-04					negl		6.0E-06	2.06E-04				negl			2.1E-04
Cadmium	1.1E-03	4.2E-04					9.3E-03		5.5E-04	2.06E-04				3.69E-03			0.004
Chromium	1.4E-03	4.2E-04					2.0E-02		7.0E-04	2.06E-04				7.93E-03			0.008
Cobalt	8.4E-05						2.1E-04		4.2E-05					8.33E-05			8.3E-05
Lead	5.0E-04	1.3E-03					0.55		2.5E-04	6.18E-04				0.22			0.22
Manganese	3.8E-04	8.4E-04					6.8E-02		1.9E-04	4.12E-04				0.03			0.03
Mercury	2.6E-04	4.2E-04							1.3E-04	2.06E-04							2.1E-04
Nickel	2.1E-03	4.2E-04					1.1E-02		1.1E-03	2.06E-04				4.36E-03			0.004
Selenium	2.4E-05	2.1E-03					negl		1.2E-05	1.03E-03				negl			0.001
1,1,1-Trichloroethane																	0
1,3-Butadiene																	0
Acetaldehyde																	0
Acrolein																	0
Benzene	2.1E-03								1.1E-03								0
Bis(2-ethylhexyl)phthalate							2.2E-03							8.72E-04			8.7E-04
Dichlorobenzene	1.2E-03						8.0E-07		6.0E-04					3.17E-07			6.0E-04
Ethylbenzene																	0
Formaldehyde	7.5E-02	6.10E-02							3.8E-02	2.99E-02							0.038
Hexane	1.8E+00								0.91								0.906
Phenol							2.4E-03							9.52E-04			9.5E-04
Toluene	3.4E-03								1.7E-03								1.7E-03
Total PAH Haps	negl						3.9E-02		negl					0.02			0.016
Polycyclic Organic Matter		3.30E-03								1.62E-03							0.002
Xylene																	0
<b>Total HAP =</b>									<b>0.95</b>	<b>0.03</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5.56</b>	<b>6.51</b>

**Abbreviations**

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:

PM = Particulate Matter  
 PM<sub>10</sub> = Particulate Matter (≤10 µm)  
 PM<sub>2.5</sub> = Particulate Matter (≤2.5 µm)  
 SO<sub>2</sub> = Sulfur Dioxide  
 NOx = Nitrous Oxides  
 CO = Carbon Monoxide  
 HCl = Hydrogen Chloride  
 PAH = Polyaromatic Hydrocarbon  
 HAP = Hazardous Air Pollutant  
 VOC = Volatile Organic Compounds

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4  
 No. 2, No.4, and No.6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11  
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM<sub>10</sub>)  
 Recycled (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  
 Diesel Engine Oil: AP-42 Chapter 3.3 (dated 10/96), Tables 3.3-1 and 3.3-2

\*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: Emissions Calculations

**Dryer/Mixer  
Limited Process Emissions**

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Date:** July 20, 2009  
**Reviewer:** Jack Harmon

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

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	1,499,914	ton/yr
PM Dryer/Mixer Limitation =	0.071	lb/ton of asphalt production
PM <sub>10</sub> Dryer/Mixer Limitation =	0.115	lb/ton of asphalt production
PM <sub>2.5</sub> Dryer/Mixer Limitation =	0.115	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 Pollutants	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*	0.071	0.071	0.071	53.2	53.2	53.2	53.2
PM <sub>10</sub> *	0.115	0.115	0.115	86.2	86.2	86.2	86.2
PM <sub>2.5</sub> *	0.115	0.115	0.115	86.2	86.2	86.2	86.2
SO <sub>2</sub> **	0.003	0.011	0.058	2.5	8.2	38.5	38.5
NOx**	0.026	0.055	0.055	19.5	41.2	41.2	41.2
VOC**	0.032	0.032	0.032	24.0	24.0	24.0	24.0
CO***	0.130	0.130	0.130	97.5	97.5	97.5	97.5
<b>Hazardous Air Pollutants</b>							
HCl			2.10E-04			0.16	0.16
Antimony	1.80E-07	1.80E-07	1.80E-07	1.35E-04	1.35E-04	1.35E-04	1.35E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	4.20E-04	4.20E-04	4.20E-04	4.20E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	3.07E-04	3.07E-04	3.07E-04	3.07E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	4.12E-03	4.12E-03	4.12E-03	4.12E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.95E-05	1.95E-05	1.95E-05	1.95E-05
Lead	6.20E-07	1.50E-05	1.50E-05	4.65E-04	1.12E-02	1.12E-02	1.12E-02
Manganese	7.70E-06	7.70E-06	7.70E-06	5.77E-03	5.77E-03	5.77E-03	5.77E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	1.80E-04	1.95E-03	1.95E-03	1.95E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	4.72E-02	4.72E-02	4.72E-02	0.05
Selenium	3.50E-07	3.50E-07	3.50E-07	2.62E-04	2.62E-04	2.62E-04	2.62E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	3.00E-02	3.00E-02	3.00E-02	0.03
Acetaldehyde			1.30E-03			0.97	0.97
Acrolein			2.60E-05			1.95E-02	1.95E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.29	0.29	0.29	0.29
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.18	0.18	0.18	0.18
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	2.32	2.32	2.32	2.32
Hexane	9.20E-04	9.20E-04	9.20E-04	0.69	0.69	0.69	0.69
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.04	0.04	0.04	0.04
MEK			2.00E-05			0.01	0.01
Propionaldehyde			1.30E-04			0.10	0.10
Quinone			1.60E-04			0.12	0.12
Toluene	1.50E-04	2.90E-03	2.90E-03	0.11	2.17	2.17	2.17
Total PAH Hap	1.90E-04	8.80E-04	8.80E-04	0.14	0.66	0.66	0.66
Xylene	2.00E-04	2.00E-04	2.00E-04	0.15	0.15	0.15	0.15
						<b>Total HAPs</b>	<b>7.99</b>
						<b>Worst Single HAP</b>	<b>2.32 (formaldehyde)</b>

**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, PM<sub>10</sub>, and PM<sub>2.5</sub> 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, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions.

\*\* SO<sub>2</sub>, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.

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

**Abbreviations**

VOC - Volatile Organic Compounds

HCl = Hydrogen Chloride

SO<sub>2</sub> = Sulfur Dioxide

HAP = Hazardous Air Pollutant

PAH = Polyaromatic Hydrocarbon

**Appendix A.2: Emissions Calculations  
Dryer/Mixer Slag Processing  
Limited Emissions**

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Date:** July 20, 2009  
**Reviewer:** Jack Harmon

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

Slag Usage Limitation = 

150,000
---------

 ton/yr  
SO<sub>2</sub> Slag Limitation = 

0.740
-------

 lb/ton of slag processed 

1.50
------

 % sulfur

	Emission Factor or Limitation (lb/ton)*	Limited Potential to Emit (tons/yr)
Criteria Pollutant	Slag Processing	Slag Processing
SO <sub>2</sub>	0.740	55.5

**Methodology**

\* Testing results for 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 slag containing 1.10% sulfur content. Rieth-Riley requested a safety factor of 0.20 lb/ton be added to the tested value ... to allow for a sulfur content up to 1.5%.

Limited Potential to Emit SO<sub>2</sub> from Slag (tons/yr) = (Slag Usage Limitation (ton/yr)) \* [Limited Emission Factor (lb/ton)] \* [ton/2000 lbs]

**Abbreviations**

SO<sub>2</sub> = Sulfur Dioxide

**Appendix A.2: Emissions Calculations**  
**Hot Oil Heater**  
**Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**  
**Limited Emissions**

**Company Name: Walsh & Kelly, Inc.**  
**Source Location: 24358 State Road 23, South Bend, Indiana 46614**  
**Permit Number: F141-27354-03219**  
**Date: July 20, 2009**  
**Reviewer: Jack Harmon**

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

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Totals
	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)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	0.019	0.141	<b>0.14</b>
PM <sub>10</sub> /PM <sub>2.5</sub>	7.6	3.3	0.075	0.233	<b>0.23</b>
SO <sub>2</sub>	0.6	71.0	0.006	5.011	<b>5.01</b>
NO <sub>x</sub>	100	20.0	0.988	1.412	<b>1.41</b>
VOC	5.5	0.20	0.054	0.014	<b>0.05</b>
CO	84	5.0	0.830	0.353	<b>0.83</b>
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	5.6E-04	2.0E-06	3.95E-05	<b>4.0E-05</b>
Beryllium	1.2E-05	4.2E-04	1.2E-07	2.96E-05	<b>3.0E-05</b>
Cadmium	1.1E-03	4.2E-04	1.1E-05	2.96E-05	<b>3.0E-05</b>
Chromium	1.4E-03	4.2E-04	1.4E-05	2.96E-05	<b>3.0E-05</b>
Cobalt	8.4E-05		8.3E-07	0.00E+00	<b>0</b>
Lead	5.0E-04	1.3E-03	4.9E-06	8.89E-05	<b>8.9E-05</b>
Manganese	3.8E-04	8.4E-04	3.8E-06	5.93E-05	<b>5.9E-05</b>
Mercury	2.6E-04	4.2E-04	2.6E-06	2.96E-05	<b>3.0E-05</b>
Nickel	2.1E-03	4.2E-04	2.1E-05	2.96E-05	<b>3.0E-05</b>
Selenium	2.4E-05	2.1E-03	2.4E-07	1.48E-04	<b>1.5E-04</b>
Benzene	2.1E-03		2.1E-05		<b>0</b>
Dichlorobenzene	1.2E-03		1.2E-05		<b>0</b>
Ethylbenzene					<b>0</b>
Formaldehyde	7.5E-02	6.10E-02	7.4E-04	4.31E-03	<b>0.004</b>
Hexane	1.8E+00		0.02		<b>0</b>
Phenol					<b>0</b>
Toluene	3.4E-03		3.4E-05		<b>3.36E-05</b>
Total PAH Haps	negl		negl		<b>negl</b>
Polycyclic Organic Matter		3.30E-03		2.33E-04	<b>2.3E-04</b>
<b>Total HAP =</b>			1.9E-02	5.0E-03	<b>0.023</b>

**Methodology**

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

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

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) =

[Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \* [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) =

[Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [kgal/1000 gal] \* [ton/2000 lbs]

Sources of AP-42 Emission Factors for fuel combustion:

AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

**Abbreviations**

PM = Particulate Matter

PM<sub>10</sub> = Particulate Matter (<10 µm)

PM<sub>2.5</sub> = Particulate Matter (<2.5 µm)

SO<sub>2</sub> = Sulfur Dioxide

NO<sub>x</sub> = Nitrous Oxides

CO = Carbon Monoxide

HAP = Hazardous Air Pollutant

HCl = Hydrogen Chloride

PAH = Polyaromatic Hydrocarbon

VOC - Volatile Organic Compounds

**Appendix A.2: Emissions Calculations**

**Inert Gas Generator  
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr  
Limited Emissions**

**Company Name:** Walsh & Kelly, Inc.  
**Source Location:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Date:** July 20, 2009  
**Reviewer:** Jack Harmon

Maximum Generator Fuel Input Rate = 0.0228 MMBtu/hr  
 Natural Gas Usage = 0.20 MMcF/yr  
 No. 2 Fuel Oil Usage = 0 gal/yr, and 0.50 % sulfur

**Unlimited/Uncontrolled Emissions**

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Totals
	Inert Gas Generator		Inert Gas Generator		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	0.000	0.000	1.8974E-04
PM <sub>10</sub> /PM <sub>2.5</sub>	7.6	3.3	0.001	0.000	7.5897E-04
SO <sub>2</sub>	0.6	71.0	0.000	0.000	5.9918E-05
NOx	100	20.0	0.010	0.000	9.9864E-03
VOC	5.5	0.20	0.001	0.000	5.4925E-04
CO	84	5.0	0.008	0.000	8.3886E-03
<b>Hazardous Air Pollutant</b>					
Arsenic	2.0E-04	5.6E-04	2.0E-08	0.00E+00	2.0E-08
Beryllium	1.2E-05	4.2E-04	1.2E-09	0.00E+00	1.2E-09
Cadmium	1.1E-03	4.2E-04	1.1E-07	0.00E+00	1.1E-07
Chromium	1.4E-03	4.2E-04	1.4E-07	0.00E+00	1.4E-07
Cobalt	8.4E-05		8.4E-09	0.00E+00	8.4E-09
Lead	5.0E-04	1.3E-03	5.0E-08	0.00E+00	5.0E-08
Manganese	3.8E-04	8.4E-04	3.8E-08	0.00E+00	3.8E-08
Mercury	2.6E-04	4.2E-04	2.6E-08	0.00E+00	2.6E-08
Nickel	2.1E-03	4.2E-04	2.1E-07	0.00E+00	2.1E-07
Selenium	2.4E-05	2.1E-03	2.4E-09	0.00E+00	2.4E-09
Benzene	2.1E-03		2.1E-07		2.10E-07
Dichlorobenzene	1.2E-03		1.2E-07		1.20E-07
Ethylbenzene					0.00E+00
Formaldehyde	7.5E-02	6.10E-02	7.5E-06	0.00E+00	7.49E-06
Hexane	1.8E+00		0.00		1.80E-04
Phenol					0.00E+00
Toluene	3.4E-03		3.4E-07		3.40E-07
Total PAH Haps	negl		negl		negl
Polycyclic Organic Matter		3.30E-03		0.00E+00	0.0E+00
<b>Total HAP =</b>			1.9E-04	0.0E+00	1.885E-04

**Methodology**

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

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

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) =

[Maximum Natural Gas Usage (MMCF/yr)] \* [Emission Factor (lb/MMCF)] \* [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) =

[Maximum Fuel Usage (gals/yr)] \* [Emission Factor (lb/kgal)] \* [kgal/1000 gal] \* [ton/2000 lbs]

Sources of AP-42 Emission Factors for fuel combustion:

AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

**Abbreviations**

PM = Particulate Matter

PM<sub>10</sub> = Particulate Matter (<10 µm)

PM<sub>2.5</sub> = Particulate Matter (<2.5 µm)

SO<sub>2</sub> = Sulfur Dioxide

NOx = Nitrous Oxides

CO = Carbon Monoxide

HAP = Hazardous Air Pollutant

HCl = Hydrogen Chloride

PAH = Polyaromatic Hydrocarbon

VOC = Volatile Organic Compounds

## Appendix A.2: Limited Emissions Summary Asphalt Load-Out, Silo Filling, and Yard Emissions

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Date:** July 20, 2009  
**Reviewer:** Jack Harmon

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 =	290	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	1,500,000	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*	3.2E-04	4.4E-04	NA	0.24	0.33	NA	<b>0.57</b>
Organic PM	1.4E-04	1.1E-04	NA	0.11	0.079	NA	<b>0.19</b>
TOC	0.002	0.005	0.001	1.30	3.80	0.825	<b>5.9</b>
CO	0.001	0.000	3.5E-04	0.42	0.368	0.264	<b>1.05</b>

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

<b>PM/HAPs</b>	<b>0.012</b>	<b>0.014</b>	<b>0</b>	<b>0.027</b>
<b>VOC/HAPs</b>	<b>0.031</b>	<b>0.077</b>	<b>0.008</b>	<b>0.116</b>
<b>non-VOC/HAPs</b>	<b>1.6E-04</b>	<b>1.6E-05</b>	<b>4.2E-05</b>	<b>2.2E-04</b>
<b>non-VOC/non-HAPs</b>	<b>0.15</b>	<b>0.09</b>	<b>0.04</b>	<b>0.28</b>

<b>Total VOCs</b>	<b>1.95</b>	<b>6.09</b>	<b>0.5</b>	<b>8.6</b>
<b>Total HAPs</b>	<b>0.04</b>	<b>0.09</b>	<b>0.008</b>	<b>0.14</b>
<b>Worst Single HAP</b>				<b>0.044</b> (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)::

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

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

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

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

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

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

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

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

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

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: 24358 State Road 23, South Bend, Indiana 46614  
 Permit Number: F141-27354-03219  
 Date: July 20, 2009  
 Reviewer: Jack Harmon

**Organic Particulate-Based Compounds (Table 11.1-15)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
<b>PAH HAPs</b>										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	4.4E-04	6.0E-04	NA	1.0E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	4.8E-05	1.8E-05	NA	6.6E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.2E-04	1.7E-04	NA	2.8E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	3.2E-05	7.1E-05	NA	1.0E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.3E-05	0	NA	1.3E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	3.8E-06	0	NA	3.8E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	3.2E-06	0	NA	3.2E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	3.9E-06	0	NA	3.9E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.3E-05	1.2E-05	NA	2.5E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	1.8E-04	2.7E-04	NA	4.4E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	6.3E-07	0	NA	6.3E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	8.5E-05	1.9E-04	NA	2.8E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.3E-03	1.3E-03	NA	2.6E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	8.0E-07	0	NA	8.0E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	4.1E-03	6.7E-03	NA	0.011
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	2.1E-03	2.3E-03	NA	4.4E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	3.8E-05	3.8E-05	NA	7.6E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.4E-03	2.3E-03	NA	3.7E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	2.6E-04	5.6E-04	NA	8.1E-04
<b>Total PAH HAPs</b>							<b>0.010</b>	<b>0.014</b>	<b>NA</b>	<b>0.025</b>
<b>Other semi-volatile HAPs</b>										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.0E-03	0	0	2.0E-03

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

**Methodology**

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

**Abbreviations**

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

**Appendix A.2: Limited Emissions Summary**  
**Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**  
**Limited Emissions**

**Organic Volatile-Based Compounds (Table 11.1-16)**

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
<b>VOC</b>		VOC	---	TOC	94%	100%	<b>1.95</b>	<b>6.09</b>	<b>0.52</b>	<b>8.57</b>
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.4E-01	1.6E-02	3.6E-02	0.187
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	9.6E-04	3.4E-03	2.5E-04	0.005
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.5E-02	6.7E-02	3.9E-03	0.086
<b>Total non-VOC/non-HAPS</b>					<b>7.30%</b>	<b>1.40%</b>	<b>0.152</b>	<b>0.085</b>	<b>0.040</b>	<b>0.28</b>
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.1E-03	1.9E-03	2.9E-04	3.3E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.0E-04	3.0E-04	5.3E-05	5.5E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.0E-03	2.4E-03	2.7E-04	3.7E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	2.7E-04	9.7E-04	7.2E-05	1.3E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	4.4E-06	2.4E-04	1.2E-06	2.5E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	3.1E-04	1.4E-03	8.3E-05	1.8E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	2.3E-03	0	6.1E-04	2.9E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	5.8E-03	2.3E-03	1.5E-03	0.010
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	1.8E-03	4.2E-02	4.8E-04	0.044
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	3.1E-03	6.1E-03	8.3E-04	0.010
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	3.7E-05	1.9E-05	9.9E-06	6.6E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	1.6E-05	0	1.6E-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%	1.5E-04	3.3E-04	4.0E-05	5.2E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	1.6E-04	0	4.2E-05	2.0E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	4.4E-03	3.8E-03	1.2E-03	0.009
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	2.7E-05	0	7.2E-06	3.4E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	8.5E-03	1.2E-02	2.3E-03	0.023
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	1.7E-03	3.5E-03	4.4E-04	5.6E-03
<b>Total volatile organic HAPs</b>					<b>1.50%</b>	<b>1.30%</b>	<b>0.031</b>	<b>0.079</b>	<b>0.008</b>	<b>0.119</b>

**Methodology**

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

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

**Abbreviations**

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

**Appendix A.2: Emissions Calculations**  
**Material Storage Piles**  
**Limited Emissions**

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Date:** July 20, 2009  
**Reviewer:** Jack Harmon

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

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM <sub>10</sub> /PM <sub>2.5</sub> (tons/yr)
Limestone	1.6	1.85	0.67	0.226	0.079
Gravel (Crushed Concrete)	1.6	1.85	0.15	0.051	0.018
Slag	3.8	4.40	0.80	0.642	0.225
<b>Totals =</b>			<b>1.62</b>	<b>0.92</b>	<b>0.32</b>

**Methodology**

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

PTE of PM<sub>10</sub>/PM<sub>2.5</sub> (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.

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

**Abbreviations**

PM = Particulate Matter

PM<sub>10</sub> = Particulate Matter (<10 µm)

PM<sub>2.5</sub> = Particulate Matter (<2.5 µm)

PM<sub>2.5</sub> = PM<sub>10</sub>

PTE = Potential to Emit

**Appendix A.2: Emissions Calculations**  
**Material Processing, Handling, Crushing, Screening, and Conveying**  
**Limited Emissions**

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Date:** July 20, 2009  
**Reviewer:** Jack Harmon

**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.

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

where:  $E_f$  = Emission factor (lb/ton)

k (PM)	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter $\leq 100 \mu\text{m}$ )
k (PM <sub>10</sub> )	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter $\leq 10 \mu\text{m}$ )
k (PM <sub>2.5</sub> )	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter $\leq 2.5 \mu\text{m}$ )
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)
Ef (PM)	2.27E-03	lb PM/ton of material handled
Ef (PM <sub>10</sub> )	1.07E-03	lb PM <sub>10</sub> /ton of material handled
Ef (PM <sub>2.5</sub> )	1.62E-04	lb PM <sub>2.5</sub> /ton of material handled

Annual Asphalt Production Limitation	= 1,499,914	tons/yr
Percent Asphalt Cement/Binder (weight %)	= 6.0%	
Maximum Material Handling Throughput	= 1,409,919	tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM <sub>10</sub> (tons/yr)	Limited PTE of PM <sub>2.5</sub> (tons/yr)
Truck unloading of materials into storage piles	1.60	0.76	0.11
Front-end loader dumping of materials into feeder bins	1.60	0.76	0.11
Conveyor dropping material into dryer/mixer or batch tower	1.60	0.76	0.11
<b>Total (tons/yr)</b>	<b>4.79</b>	<b>2.27</b>	<b>0.34</b>

**Methodology**

The percent asphalt cement/binder provided by the source.

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

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

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

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

**Material Screening and Conveying (AP-42 Section 19.2.2)**

To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 19.2.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM <sub>10</sub> (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM <sub>10</sub> /PM <sub>2.5</sub> (tons/yr)**
Crushing	0.0054	0.0024	3.81	1.69
Screening	0.025	0.0087	17.62	6.13
Conveying	0.003	0.0011	2.11	0.78
<b>Limited Potential to Emit (tons/yr) =</b>			<b>23.55</b>	<b>8.60</b>

**Abbreviations**

PM = Particulate Matter  
PM<sub>10</sub> = Particulate Matter (<10  $\mu\text{m}$ )  
PM<sub>2.5</sub> = Particulate Matter (<2.5  $\mu\text{m}$ )  
PTE = Potential to Emit

**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/PM<sub>10</sub> 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 PM<sub>10</sub> = PM<sub>2.5</sub>

**Appendix A.2 Emissions Calculations  
Unpaved Roads  
Limited Emissions**

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Date:** July 20, 2009  
**Reviewer:** Jack Harmon

**Unpaved Roads at Industrial Site**

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

Annual Asphalt Production Limitation =	1,499,914	tons/yr
Percent Asphalt Cement/Binder (weight %) =	6.0%	
Maximum Material Handling Throughput =	1,409,919	tons/yr
Maximum Asphalt Cement/Binder Throughput =	89,995	tons/yr
No. 2 Fuel Oil Limitation =	980,379	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)
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	14.0	26.0	40.00	3.5E+03	1.4E+05	422	0.080	276.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	14.0	0	14.00	3.5E+03	4.8E+04	422	0.080	276.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	25	37.00	3.6E+03	1.3E+05	422	0.080	288.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	3.6E+03	4.3E+04	422	0.080	288.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	48.0	13.0	61.00	6.9E+03	4.2E+05	158	0.030	207.7
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	48.0	0	48.00	6.9E+03	3.3E+05	158	0.030	207.7
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	13.0	20.0	33.00	4.5E+03	1.5E+05	264	0.050	225.0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	13.0	0	13.00	4.5E+03	5.8E+04	264	0.050	225.0
<b>Total</b>					<b>36,967.1</b>	<b>1,324,862.5</b>			<b>1,995.1</b>

Average Vehicle Weight Per Trip =	35.8	tons/trip
Average Miles Per Trip =	0.054	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	PM <sub>10</sub>	PM <sub>2.5</sub>	
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 =	35.8	35.8	35.8	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	PM <sub>10</sub>	PM <sub>2.5</sub>	
Unmitigated Emission Factor, $E_f =$	7.88	2.01	0.20	lb/mile
Mitigated Emission Factor, $E_{ext} =$	5.18	1.32	0.13	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 PM <sub>10</sub> (tons/yr)	Unmitigated PTE of PM <sub>2.5</sub> (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM <sub>10</sub> (tons/yr)	Mitigated PTE of PM <sub>2.5</sub> (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM <sub>10</sub> (tons/yr)	Controlled PTE of PM <sub>2.5</sub> (tons/yr)
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	1.091	0.278	0.03	0.717	0.183	1.8E-02	0.359	0.091	9.1E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	1.091	0.278	0.03	0.717	0.183	1.8E-02	0.359	0.091	9.1E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.134	0.289	2.9E-02	0.746	0.190	1.9E-02	0.373	0.095	9.5E-03
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.134	0.289	2.9E-02	0.746	0.190	1.9E-02	0.373	0.095	9.5E-03
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.82	0.21	0.02	0.54	0.14	0.01	0.27	0.07	0.01
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.82	0.21	0.02	0.54	0.14	0.01	0.27	0.07	0.01
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.89	0.23	0.02	0.58	0.15	0.01	0.29	0.07	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.89	0.23	0.02	0.58	0.15	0.01	0.29	0.07	0.01
<b>Totals</b>		<b>7.86</b>	<b>2.00</b>	<b>0.20</b>	<b>5.17</b>	<b>1.32</b>	<b>0.13</b>	<b>2.58</b>	<b>0.66</b>	<b>0.07</b>

**Methodology**

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

**Abbreviations**

PM = Particulate Matter  
 PM<sub>10</sub> = Particulate Matter (<10 μm)  
 PM<sub>2.5</sub> = Particulate Matter (<2.5 μm)  
 PM<sub>2.5</sub> = PM<sub>10</sub>  
 PTE = Potential to Emit

**Appendix A.2 Emissions Calculations**  
**Paved Roads**  
**Limited Emissions**

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Date:** July 20, 2009  
**Reviewer:** Jack Harmon

**Paved Roads at Industrial Site**

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

Annual Asphalt Production Limitation =	1,499,914	tons/yr
Percent Asphalt Cement/Binder (weight %) =	6.0%	
Maximum Material Handling Throughput =	1,409,919	tons/yr
Maximum Asphalt Cement/Binder Throughput =	89,995	tons/yr
No. 2 Fuel Oil Limitation =	980,379	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)
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	14.0	26.0	40.00	3.5E+03	1.4E+05	422	0.080	276.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	14.0	0	14.00	3.5E+03	4.8E+04	422	0.080	276.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	25	37.00	3.6E+03	1.3E+05	422	0.080	288.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	3.6E+03	4.3E+04	422	0.080	288.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	48.0	13.0	61.00	6.9E+03	4.2E+05	158	0.030	207.7
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	48.0	0	48.00	6.9E+03	3.3E+05	158	0.030	207.7
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	13.0	20.0	33.00	4.5E+03	1.5E+05	264	0.050	225.0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	13.0	0	13.00	4.5E+03	5.8E+04	264	0.050	225.0
<b>Total</b>					<b>36,967.1</b>	<b>1,324,862.5</b>			<b>1,995.1</b>

Average Vehicle Weight Per Trip =	35.8	tons/trip
Average Miles Per Trip =	0.054	miles/trip

Unmitigated Emission Factor,  $E_f = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C]$  (Equation 1 from AP-42 13.2.1)

	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	35.8	35.8	35.8	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	0.00036	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	0.6	g/m <sup>2</sup> = Ubitiquous 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,  $E_{ext} = E * [1 - (p/4N)]$

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	PM <sub>10</sub>	PM <sub>2.5</sub>	
Unmitigated Emission Factor, $E_f$ =	1.55	0.30	0.04	lb/mile
Mitigated Emission Factor, $E_{ext}$ =	1.42	0.28	0.04	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 PM <sub>10</sub> (tons/yr)	Unmitigated PTE of PM <sub>2.5</sub> (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM <sub>10</sub> (tons/yr)	Mitigated PTE of PM <sub>2.5</sub> (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM <sub>10</sub> (tons/yr)	Controlled PTE of PM <sub>2.5</sub> (tons/yr)
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.2143	0.0418	0.0062	0.1959	0.0382	0.0057	0.0980	0.0191	0.0028
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.2143	0.0418	0.0062	0.1959	0.0382	0.0057	0.0980	0.0191	0.0028
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.2228	0.0434	0.0065	0.2038	0.0397	0.0059	0.1019	0.0199	0.0030
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.2228	0.0434	0.0065	0.2038	0.0397	0.0059	0.1019	0.0199	0.0030
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.1607	0.0313	0.0047	0.1469	0.0286	0.0043	0.0735	0.0143	0.0021
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.1607	0.0313	0.0047	0.1469	0.0286	0.0043	0.0735	0.0143	0.0021
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.1741	0.0339	0.0051	0.1592	0.0310	0.0046	0.0796	0.0155	0.0023
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.1741	0.0339	0.0051	0.1592	0.0310	0.0046	0.0796	0.0155	0.0023
<b>Totals</b>		<b>1.54</b>	<b>0.30</b>	<b>0.04</b>	<b>1.41</b>	<b>0.28</b>	<b>0.04</b>	<b>0.71</b>	<b>0.14</b>	<b>0.02</b>

**Methodology**

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

**Abbreviations**

PM = Particulate Matter  
PM<sub>10</sub> = Particulate Matter (<10 μm)  
PM<sub>2.5</sub> = Particulate Matter (<2.5 μm)  
PM<sub>2.5</sub> = PM<sub>10</sub>  
PTE = Potential to Emit

**Appendix A.2: Emissions Calculations  
Cold Mix Asphalt Production and Stockpiles  
Limited Emissions**

**Company Name:** Walsh & Kelly, Inc.  
**Source Address:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** F141-27354-03219  
**Date:** July 20, 2009  
**Reviewer:** Jack Harmon

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

Cold Mix Asphalt VOC Usage Limitation =  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)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)				
Cut back asphalt medium cure (assuming kerosene solvent)				
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	274.9	68.7
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)				
Other asphalt with solvent binder				
<b>Worst Case Limited PTE of VOC =</b>				<b>68.7</b>

Liquid Binder Adjustment Ratio
4.000

**Hazardous Air Pollutants**

Worst Case Total HAP Content of VOC solvent (weight %)* =	0.00%
Worst Case Single HAP Content of VOC solvent (weight %)* =	0.0% Xylenes
<b>Limited PTE of Total HAP (tons/yr) =</b>	<b>0.00</b>
<b>Limited PTE of Single HAP (tons/yr) =</b>	<b>0.00 Xylenes</b>

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

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

**Methodology**

Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] \* [VOC Solvent Usage Limitation (tons/yr)]

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

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

\*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tph.htm>

**Abbreviations**

VOC = Volatile Organic Compounds  
PTE = Potential to Emit

**Appendix A.2: Emissions Calculations  
Particulate Compliance  
Limited Emissions**

**Company Name: Walsh & Kelly, Inc.**  
**Address City IN Zip: 24358 State Road 23, South Bend, Indiana 46614**  
**Permit Number: F141-27354-03219**  
**Date: July 20, 2009**  
**Reviewer: Jack Harmon**

	flow (acfm)	time (min/hr)	grain loading (gr/dscf)	conversion (1 lb/7000 gr)	conversion (8760 hr/2000 lbs)	PM Rate (lb/hr)	PM Emissions (lb/ton)	Annual PM (ton/yr)
STACK	60299	60	0.0025	7000	4.38	1.29	0.003	5.66
						PTE		PTE
LIMIT	60299	60	0.04	7000	4.38	20.67	0.05	90.55
LIMIT	60299	60	0.03	7000	4.38	15.51	0.04	67.91

**METHODLOGY:**

PM Rate (lb/hr) = (Flow (acfm) x Grain Loading (gr/dscf) x (60 min/hour))/(1 lb/7000 gr)

Annual PM Emissions (tons/yr) = PM Rate (lbs/hr) x (8,760 hr/2,000 lbs)

**NOTE:**

Results from Nov. 2004 stack test.

**Appendix A.2: Emission Calculations  
VOC Emissions from Storage Tanks**

Company Name: Walsh & Kelly, Inc.  
Address: 24358 State Road 23, South Bend, Indiana 46614  
Permit No.: F141-27354-03219  
Date: July 20, 2009  
Reviewer: Jack Harmon

**Tanks**

<b>[m3] =</b>	$3.785412 \times [10^3 \text{ gal}]$	<b>[kPa] =</b>	$6.894757 [\text{PSI}]$
---------------	--------------------------------------	----------------	-------------------------

ID	Capacity, 10 <sup>3</sup> gal	Capacity, m <sup>3</sup>	Product Stored	Vapor Pressure		Potential to Emit VOC		
				PSI	kPa	(lbs/yr)*	(tons/yr)	
DT1	0.8	3	Fuel Oil #2	0.29	ambient	2.0	36.3	1.82E-02
10	20	75.7	Liquid Asphalt	0.00000029	@290F	2.00E-06	20.7	1.04E-02
11	20	75.7	Liquid Asphalt	0.00000029	@290F	2.00E-06	15.6	7.80E-03
12	20	75.7	Waste Oil	0.29	ambient	0.4	31.2	1.56E-02
14	30	113.6	Liquid Asphalt	0.00000029	@290F	2.00E-06	14.5	7.25E-03
<b>Total</b>							<b>118</b>	<b>0.059</b>

\* The Potential to Emit VOC in lbs/yr was calculated using TANKS 4.09 for each of the tanks using waste oil as the worst case fuel

**Appendix A.3: Emissions Calculations**  
**Fuel Equivalency Calculations (Natural Gas is the main fuel)**  
**Fuel Combustion Units with Maximum Capacity > 100 MMBtu/hr**

**Company Name:** Walsh & Kelly, Inc.  
**Address City IN Zip:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** 141-27354-03219  
**Pit ID:** 141-03219  
**Reviewer:** Jack Harmon

\*Note: these equivalencies are related back to natural gas (assumed to be the predominant fuel used at this source).

Fuel Type	SO2 Equivalency					NOx Equivalency				
	* Limited Sulfur Content	Limited Sulfur Content Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units
Natural Gas	NA	NA	0.6	lb/MMCF	1.0	MMCF natural gas per MMCF natural gas	190	lb/MMCF	1.0	MMCF natural gas per MMCF natural gas
No. 2 Fuel Oil	0.50	% by weight	78.50	lb/kgal	130.8	MMCF natural gas per 1000 gal No. 2 fuel oil	24.0	lb/kgal	0.1263	MMCF natural gas per 1000 gal No. 2 fuel oil
No. 4 Fuel Oil		% by weight	0.00	lb/kgal	0.0	MMCF natural gas per 1000 gal No. 4 fuel oil	47.0	lb/kgal	0.247	MMCF natural gas per 1000 gal No. 4 fuel oil
Residual (No. 5 or No. 6) Fuel Oil		% by weight	0.00	lb/kgal	0.0	MMCF natural gas per 1000 gal residual (No. 5 or No. 6) fuel oil	47.0	lb/kgal	0.247	MMCF natural gas per 1000 gal residual (No. 5 or No. 6) fuel oil
Propane		gr/100 ft3 sulfur	0.000	lb/kgal	0.0000	MMCF natural gas / 1000 gal propane	13.0	lb/kgal	0.0684	MMCF natural gas per 1000 gal propane
Butane		gr/100 ft3 sulfur	0.0000	lb/kgal	0.0000	MMCF natural gas per 1000 gal butane	15.0	lb/kgal	0.0789	MMCF natural gas per 1000 gal butane
Waste Oil	0.66	% by weight	97.02	lb/kgal	161.7	MMCF natural gas per 1000 gal waste oil	19.0	lb/kgal	0.1000	MMCF natural gas per 1000 gal waste oil
Diesel Engine Oil		NA	40.6	lb/kgal	67.7	MMCF natural gas per 1000 gal diesel engine oil	617.4	lb/kgal	3.249	MMCF natural gas per 1000 gal diesel engine oil

**Methodology**

Fuel Equivalency = [AP-42 Emission Factor for any fuel type (lb/kgal)] / [AP-42 Emission Factor for Natural Gas (lb/MMCF)]

\* Limited Sulfur Content - see Page 2 of Appendix A.2

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas (boiler > 100 MMBtu/hr): AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1 and 1.4-2

No. 2, No.4, and residual fuel oil (industrial boiler > 100 MMBtu/hr): AP-42 Chapter 1.3 (dated 9/98), Table 1.3-1

Waste Oil (small boiler): AP-42 Chapter 1.11 (dated 10/96), Table 1.11-2

**Appendix A.3: Emissions Calculations**  
**Fuel Equivalency Calculations (No. 2 Fuel is the main fuel)**  
**Fuel Combustion Units with Maximum Capacity > 100 MMBtu/hr**

**Company Name:** Walsh & Kelly, Inc.  
**Address City IN Zip:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** 141-27354-03219  
**Plt ID:** 141-03219  
**Reviewer:** Jack Harmon

\*Note: these equivalencies are related back to the No. 2 Fuel Oil (assumed to be the predominant fuel used at this source).

Fuel Type	SO2 Equivalency						NOx Equivalency			
	* Limited Sulfur Content	Limited Sulfur Content Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units
Natural Gas	NA	NA	0.6	lb/MMCF	0.131	MMCF natural gas per gal No. 2 fuel oil	190	lb/MMCF	0.00013	MMCF natural gas per 1000 gal No. 2 fuel oil
No. 2 Fuel Oil	0.50	% by weight	78.50	lb/kgal	1.00	gal No. 2 fuel oil per gal No. 2 fuel oil	24.0	lb/kgal	1.00	gal No. 2 fuel oil per gal No. 2 fuel oil
No. 4 Fuel Oil		% by weight	0.00	lb/kgal	#DIV/0!	gal No. 4 fuel oil per gal No. 2 fuel oil	47.0	lb/kgal	0.51	gal No. 4 fuel oil per gal No. 2 fuel oil
Residual (No. 5 or No. 6) Fuel Oil		% by weight	0.00	lb/kgal	#DIV/0!	gal residual (No. 5 or No. 6) fuel oil per gal No. 2 fuel oil	47.0	lb/kgal	0.51	gal residual (No. 5 or No. 6) fuel oil per gal No. 2 fuel oil
Propane		gr/100 ft3 sulfur	0.000	lb/kgal	#DIV/0!	gal propane per gal No. 2 fuel oil	13.0	lb/kgal	1.85	gal propane per gal No. 2 fuel oil
Butane		gr/100 ft3 sulfur	0.0000	lb/kgal	#DIV/0!	gal butane per gal No. 2 fuel oil	15.0	lb/kgal	1.60	gal butane per gal No. 2 fuel oil
Waste Oil	0.66	% by weight	97.02	lb/kgal	0.81	gal waste oil per gal No. 2 fuel oil	19.0	lb/kgal	1.26	gal waste oil per gal No. 2 fuel oil
Diesel Engine Oil	NA	NA	40.6	lb/kgal	1.93	gal diesel engine oil per gal No. 2 fuel oil	617.4	lb/kgal	0.039	gal diesel engine oil per gal No. 2 fuel oil

**Methodology**

Fuel Equivalency = [AP-42 Emission Factor for No. 2 fuel oil (lb/kgal)] / [AP-42 Emission Factor for any fuel type (lb/kgal or lb/MMCF)]

\* Limited Sulfur Content - see Page 2 of Appendix A.2

Sources of AP-42 Emission Factors for fuel combustion:

- Natural Gas (boiler > 100 MMBtu/hr): AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1 and 1.4-2
- No. 2, No.4, and residual fuel oil (industrial boiler > 100 MMBtu/hr): AP-42 Chapter 1.3 (dated 9/98), Table 1.3-1
- Propane and Butane (industrial boiler 10 to 100 MMBtu/hr): AP-42 Chapter 1.5 (dated 10/96), Table 1.5-1
- Waste Oil (small boiler): AP-42 Chapter 1.11 (dated 10/96), Table 1.11-2
- Diesel Engine Oil: AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1

**Appendix A.3: Emissions Calculations**  
**Fuel Equivalency Calculations (Waste Oil is the main fuel)**  
**Fuel Combustion Units with Maximum Capacity > 100 MMBtu/hr**

**Company Name:** Walsh & Kelly, Inc.  
**Address City IN Zip:** 24358 State Road 23, South Bend, Indiana 46614  
**Permit Number:** 141-27354-03219  
**Plt ID:** 141-03219  
**Reviewer:** Jack Harmon

\*Note: these equivalencies are related back to Waste Oil (assumed to be the predominant fuel used at this source).

Fuel Type	SO2 Equivalency						NOx Equivalency			
	* Limited Sulfur Content	Limited Sulfur Content Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units
Natural Gas	NA	NA	0.6	lb/MMCF	0.162	MMCF natural gas per gal waste oil	190	lb/MMCF	0.00010	MMCF natural gas per gal waste oil
No. 2 Fuel Oil	0.50	% by weight	78.50	lb/kgal	1.24	gal No. 2 fuel oil per gal waste oil	24.0	lb/kgal	0.792	gal No. 2 fuel oil per gal waste oil
No. 4 Fuel Oil		% by weight	0.00	lb/kgal	#DIV/0!	gal No. 4 fuel oil per gal waste oil	47.0	lb/kgal	0.404	gal No. 4 fuel oil per gal waste oil
Residual (No. 5 or No. 6) Fuel Oil		% by weight	0.00	lb/kgal	#DIV/0!	gal residual (No. 5 or No. 6) fuel oil per gal waste oil	47.0	lb/kgal	0.404	gal residual (No. 5 or No. 6) fuel oil per gal waste oil
Propane		gr/100 ft3 sulfur	0.000	lb/kgal	#DIV/0!	gal propane per gal waste oil	13.0	lb/kgal	1.46	gal propane per gal waste oil
Butane		gr/100 ft3 sulfur	0.0000	lb/kgal	#DIV/0!	gal butane per gal waste oil	15.0	lb/kgal	1.267	gal butane per gal waste oil
Waste Oil	0.66	% by weight	97.02	lb/kgal	1.00	gal waste oil per gal waste oil	19.0	lb/kgal	1.00	gal waste oil per gal waste oil
Diesel Engine Oil	NA	NA	40.6	lb/kgal	2.39	gal diesel engine oil per gal waste oil	617.4	lb/kgal	0.031	gal diesel engine oil per gal waste oil

**Methodology**

Fuel Equivalency = [AP-42 Emission Factor for waste oil (lb/kgal)] / [AP-42 Emission Factor for any fuel type (lb/kgal or lb/MMCF)]

\* Limited Sulfur Content - see Page 2 of Appendix A.2

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas (boiler > 100 MMBtu/hr): AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1 and 1.4-2

No. 2, No.4, and residual fuel oil (industrial boiler > 100 MMBtu/hr): AP-42 Chapter 1.3 (dated 9/98), Table 1.3-1

Propane and Butane (industrial boiler 10 to 100 MMBtu/hr): AP-42 Chapter 1.5 (dated 10/96), Table 1.5-1

Waste Oil (small boiler): AP-42 Chapter 1.11 (dated 10/96), Table 1.11-2

Diesel Engine Oil: AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
**Governor**

*Thomas W. Easterly*  
**Commissioner**

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

## SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Roger Knip  
Walsh & Kelly, Inc  
24358 SR 23  
South Bend, IN 46614

DATE: November 9, 2009

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

SUBJECT: Final Decision  
FESOP - Renewal  
141-27354-03219

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:  
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at [jbrush@idem.IN.gov](mailto:jbrush@idem.IN.gov).

Final Applicant Cover letter.dot 11/30/07



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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**Governor**

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

November 9, 2009

TO: South Bend Public Library

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

Subject: **Important Information for Display Regarding a Final Determination**

**Applicant Name: Walsh & Kelly, Inc**  
**Permit Number: 141-27354-03219**

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures  
Final Library.dot 11/30/07

# Mail Code 61-53

IDEM Staff	MIDENNEY 11/9/2009 Walsh & Kelly, Inc. 141-27354-03219 (final)		Type of Mail:  <b>CERTIFICATE OF MAILING ONLY</b>	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		Roger Knip Walsh & Kelly, Inc. 24358 SR 23 South Bend IN 46614 (Source CAATS) via confirmed delivery										
2		Mr. Charles L. Berger Attorney Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 (Affected Party)										
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4		Mr. Wayne Falda South Bend Tribune 255 W Colfax Ave South Bend IN 46626 (Affected Party)										
5		South Bend City Council / Mayors Office 227 W. Jefferson Blvd. South Bend IN 46601 (Local Official)										
6		St. Joseph County Board of Commissioners 227 West Jefferson Blvd, South Bend IN 46601 (Local Official)										
7		St. Joseph County Health Department 227 W Jefferson Blvd, Room 825 South Bend IN 46601-1870 (Health Department)										
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