



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: November 30, 2012

RE: Walsh & Kelly / 089-31548-03215

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 New
Source Review and Renewal
OFFICE OF AIR QUALITY**

**Walsh & Kelly
1700 East Main Street
Griffith, Indiana 46319**

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

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

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

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

Operation Permit No.: F089-31548-03215	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: November 30, 2012 Expiration Date: November 30, 2022

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SECTION A SOURCE SUMMARY

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

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

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

Source Address:	1700 East Main Street, Griffith, Indiana 46319
General Source Phone Number:	219-924-5900
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
County Location:	Lake
Source Location Status:	Nonattainment for Ozone standard Attainment for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

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

- (a) one (1) hot asphalt drum dryer/mixer, constructed in 1995, capable of processing 350 tons per hour of raw material, equipped with one (1) 120 million British thermal units per hour (MMBtu/hr) natural gas-fired burner using re-refined waste oil as backup fuel, using a jet pulse baghouse for controlling particulate matter (PM) emissions, and exhausting at one (1) stack (ID No. S-1). The dryer/mixer uses blast furnace slag, steel slag, and asbestos-free ground shingles in its aggregate mix. The shingles are ground off-site.
- Under 40 CFR 60, Subpart I, this dryer/mixer is considered an affected facility.
- (b) one (1) portable tertiary crusher, with a maximum capacity of 300 tons RAP or concrete per hour, constructed in 1999, using water spray for fugitive particulate emissions control.
- Under 40 CFR 60, Subpart OOO, this tertiary crusher is considered an affected facility;
- (c) production of stockpile mix (coldmix) asphalt;
- (d) general material conveying and handling operations, including:
- (1) six (6) hot asphalt mix storage bins, each with a capacity of 300 tons;
 - (2) ten (10) raw material feeder bins, each with a capacity of 30 tons;
 - (3) three (3) recycled asphalt feeder bins, each with a capacity of 30 tons;
 - (4) four (4) storage piles with a maximum total storage capacity of 109,000 tons;
 - (5) one (1) hot mix slat conveyor with a maximum capacity of 500 tons per hour;
 - (6) one (1) virgin aggregate conveyor with a maximum capacity of 400 tons per hour;

and

- (7) one (1) recycled asphalt conveyor with a maximum capacity of 200 tons per hour.

Under 40 CFR 60, Subpart I, this hot mix asphalt plant is considered an affected facility.

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

This stationary source also includes the following insignificant activities:

- (a) one (1) natural gas fired hot oil heater, with a maximum rated capacity of 1.41 million British thermal units per hour, exhausting at one (1) stack (ID No. S-2);
- (b) one (1) 1,000 gallon #2 fuel oil storage tank (ID No. TV1) [326 IAC 8-9];
- (c) three (3) 30,000 gallon liquid asphalt storage tanks (ID Nos. TV3, TV4, and TV7), both constructed in 1995 [326 IAC 8-9];
- (d) one (1) 20,000 gallon liquid asphalt storage tank (ID No. TV5), constructed in 1995 [326 IAC 8-9];
- (e) one (1) 20,000 gallon recycled oil storage tank (ID No. TV6) [326 IAC 8-9]; and
- (f) unpaved roads with public access [326 IAC 6-4].

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

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

SECTION B GENERAL CONDITIONS

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

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

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

- (a) This permit, F089-31548-03215, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Permittee shall implement the PMPs.

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

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

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

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

The Permittee shall implement the PMPs.

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

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

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

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

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

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

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Northwest Regional Office phone: (219) 757-0265; fax: (219) 757-0267.

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

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

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

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

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

(C) Corrective actions taken.

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

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

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

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

- (a) All terms and conditions of permits established prior to F089-31548-03215 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised, or

(3) deleted.

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

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

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

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

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

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

(1) That this permit contains a material mistake.

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

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

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

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

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

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

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue

MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

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

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

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

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

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

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

and

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

C.1 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 volatile organic compounds (VOCs) from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period;
 - (2) The potential to emit any regulated pollutant from the entire source, except particulate matter (PM) and volatile organic compounds (VOCs), shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period;
 - (3) 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
 - (4) 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 the source's potential to emit does not exceed the above specified limits.
- (d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.2 Opacity [326 IAC 5-1]

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

- (a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

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

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

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

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

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

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

C.6 Fugitive Particulate Matter Emissions [326 IAC 6.8-10-3]

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

- (a) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).
- (b) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).
- (c) The opacity of fugitive particulate emissions from exposed areas shall not exceed ten percent (10%) on a six (6) minute average.
- (d) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.
- (e) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.
- (f) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.
- (g) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).
- (h) Material processing facilities shall include the following:
 - (1) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.
 - (2) The PM₁₀ emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
 - (3) The PM₁₀ stack emissions from a material processing facility shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

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

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

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

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

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

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

- (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
- (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

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

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

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

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

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

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

Indiana Department of Environmental Management

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

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

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

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- (a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

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

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

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

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

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system);
or
 - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;

- (2) review of operation and maintenance procedures and records; and/or
- (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

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

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

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

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

C.17 Emission Statement [326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit an emission statement by July 1 following a calendar year when the source emits oxides of nitrogen or volatile organic compounds into the ambient air equal to or greater than twenty-five (25) tons. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

The statement must be submitted to:

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

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

C.18 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following:
 - (AA) All calibration and maintenance records.
 - (BB) All original strip chart recordings for continuous monitoring instrumentation.

- (CC) Copies of all reports required by the FESOP.
Records of required monitoring information include the following:
- (AA) The date, place, as defined in this permit, and time of sampling or measurements.
 - (BB) The dates analyses were performed.
 - (CC) The company or entity that performed the analyses.
 - (DD) The analytical techniques or methods used.
 - (EE) The results of such analyses.
 - (FF) The operating conditions as existing at the time of sampling or measurement.

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

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

C.19 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

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

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

Stratospheric Ozone Protection

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

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) one (1) hot asphalt drum dryer/mixer, constructed in 1995, capable of processing 350 tons per hour of raw material, equipped with one (1) 120 million British thermal units per hour (MMBtu/hr) natural gas-fired burner using re-refined waste oil as backup fuel, using a jet pulse baghouse for controlling particulate matter (PM) emissions, and exhausting at one (1) stack (ID No. S-1). The dryer/mixer uses blast furnace slag, steel slag, and asbestos-free ground shingles in its aggregate mix. The shingles are ground off-site.

Under 40 CFR 60, Subpart I, this dryer/mixer is considered an affected facility.

- (b) one (1) portable tertiary crusher, with a maximum capacity of 300 tons RAP or concrete per hour, constructed in 1999, using water spray for fugitive particulate emissions control.

Under 40 CFR 60, Subpart OOO, this tertiary crusher is considered an affected facility;

- (c) production of stockpile mix (coldmix) asphalt;

- (d) general material conveying and handling operations, including:

- (1) six (6) hot asphalt mix storage bins, each with a capacity of 300 tons;
- (2) ten (10) raw material feeder bins, each with a capacity of 30 tons;
- (3) three (3) recycled asphalt feeder bins, each with a capacity of 30 tons;
- (4) four (4) storage piles with a maximum total storage capacity of 109,000 tons;
- (5) one (1) hot mix slat conveyor with a maximum capacity of 500 tons per hour;
- (6) one (1) virgin aggregate conveyor with a maximum capacity of 400 tons per hour; and
- (7) one (1) recycled asphalt conveyor with a maximum capacity of 200 tons per hour.

Under 40 CFR 60, Subpart I, this hot mix asphalt plant is considered an affected facility.

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

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

D.1.1 Particulate Matter (PM) [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1, particulate matter (PM) emissions from the aggregate dryer/mixer shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf) for particulate matter.

D.1.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

- (a) The amount of asphalt produced shall not exceed 830,250 tons of asphalt per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) In order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, PM emissions from the dryer/mixer shall not exceed 0.489 pounds of PM per ton of asphalt produced.

Compliance with this limits, combined with the limited PM emissions from the entire source, shall limit source-wide PM emissions to less than 250 tons per twelve (12) consecutive month period, and shall render 326 IAC 2-2 (PSD) not applicable.

D.1.3 FESOP Limits [326 IAC 2-8-4]

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

- (a) The amount of asphalt produced shall not exceed 830,250 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The amount of blast furnace slag used in the aggregate mix shall not exceed 100,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) The amount of steel slag used in the aggregate mix shall not exceed 100,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) The amount of re-refined waste oil used shall not exceed 740,725 gallons per twelve (12) consecutive month period, with compliance shown at the end of each month.
- (e) PM10 emissions from the dryer/mixer shall not exceed 0.204 pounds of PM10 per ton of asphalt produced.
- (f) PM2.5 emissions from the dryer/mixer shall not exceed 0.223 pounds of PM2.5 per ton of asphalt produced.
- (g) CO emissions from the dryer/mixer shall not exceed 0.130 pounds of CO per ton of asphalt produced.
- (h) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.
- (i) SO2 emissions from the use of blast furnace slag shall not exceed 0.74 pounds per ton of blast furnace slag used.
- (j) SO2 emission from the use of steel slag shall not exceed 0.0014 pounds per ton of steel slag used.
- (k) The sulfur content of the blast furnace slag used shall not exceed 1.50 percent sulfur, by weight.

- (l) The sulfur content of the steel slag used shall not exceed 0.66 percent sulfur, by weight.
- (m) The sulfur content of the re-refined waste oil used shall not exceed 0.45 percent sulfur, by weight.

Compliance with these limits, combined with limited potential to emit PM₁₀, PM_{2.5}, SO₂, VOC, and CO from all other emission units, shall limit source-wide total potential to emit of PM₁₀, PM_{2.5}, SO₂, and CO emissions to less than one hundred (100) tons per twelve (12) consecutive month period, each, and shall limit source-wide VOC emissions to less than twenty-five (25) tons per twelve (12) tons per 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), 326 IAC 2-3 (Emission Offset) and 326 IAC 8-7 not applicable.

D.1.4 Shingles Usage and Content Limitations [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to limit Hazardous Air Pollutants (HAP) emissions from the dryer/mixer, the Permittee shall use only certified asbestos-free ground shingles that are ground off-site as an additive in its aggregate mix.

Compliance with this limit, combined with the limited PTE of all other emissions units at this source, shall limit the source-wide emissions of any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and any combination of HAPs to less than twenty-five (25) tons per twelve (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 Source of HAPs) not applicable.

D.1.5 Sulfur Dioxide [326 IAC 7-4.1-21]

Pursuant to 326 IAC 7-4.1-21, the Permittee shall comply with the following limits:

- (a) The sulfur dioxide emission limits for the aggregate dryer shall be less than:
 - (1) Twenty-five (25) tons per year; and
 - (2) Forty-two (42) pounds per hour.
- (b) The input of re-refined waste oil and re-refined waste oil equivalents in the one hundred twenty (120) MMBtu per hour burner for the aggregate dryer shall be limited to less than seven hundred forty thousand seven hundred twenty-five (740,725) gallons per twelve (12) consecutive month period, rolled on a monthly basis, based on maximum sulfur content of forty-five hundredths percent (0.45%) for re-refined waste oil.

D.1.6 Hydrogen Chloride [326 IAC 2-8-4] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, the following limits shall apply:

- (a) The usage of re-refined waste oil in the burner for the dryer/mixer shall not exceed 740,725 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The chlorine content of the re-refined waste oil used shall not exceed 0.10 percent chlorine, by weight.
- (c) The ash content of the re-refined waste oil used shall not exceed 1.0 percent ash, by weight.
- (d) The lead content of the re-refined waste oil used shall not exceed 0.01 percent lead, by weight.

- (e) HCl emissions from the burner for the dryer/mixer shall be limited to less than 6.6 pounds of HCl per one thousand (1,000) gallons of re-refined waste oil combusted.

Compliance with these limits, combined with the HAPs emissions from the entire source, will also limit the source-wide emissions of any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and a source-wide emissions of any combination of HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period, and shall render 326 IAC 2-7 (Part 70 permits), and 326 IAC 2-4.1 (Major Source for HAPs) not applicable.

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

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

Compliance Determination Requirements

D.1.8 Testing Requirements [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.1.1, D.1.2(b), and D.1.3(e) and D.1.3(f), the Permittee shall conduct stack testing for the dryer/mixer for PM, PM10, and PM2.5 at least once every five years from the date of the last valid demonstration of compliance. Section C - Performance Testing, contains the Permittee's obligation with regard to the performance testing required by this condition.

D.1.9 Shingle Asbestos Content

Pursuant to 326 IAC 2-8-4, in order to demonstrate compliance with Condition D.1.4 shall be determined utilizing one of the following options:

- (a) Providing shingle supplier certification that the recycled asphalt shingles (factory seconds and/or post consumer waste) do not contain asbestos; or
- (b) Analyzing a sample of the recycled asphalt shingles (factory seconds and/or post consumer waste) delivery to determine the asbestos content of the shingles, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

D.1.10 Sulfur Dioxide Emissions, Sulfur Content, Chlorine Content

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate compliance with the sulfur content of the re-refined waste oil specified in Conditions D.1.3(m) and D.1.5(b) by utilizing one of the following options:
 - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (i) Oil samples may be collected from the fuel 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.

- (iii) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 120 MMBtu per hour burner for the aggregate dryer/mixer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.
 - (b) Pursuant to 326 IAC 2-8-4, the Permittee shall demonstrate compliance with the sulfur content of the blast furnace slag as specified in Condition D.1.3(k) by utilizing one of the following options:
 - (1) Maintaining all records of vendor analyses or certifications of blast furnace slag delivered; or
 - (2) Analyzing a sample of each blast furnace slag delivery, if no vendor analyses or certifications are available, to determine the sulfur content of the blast furnace slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 120 MMBtu/hr burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.
 - (c) Pursuant to 326 IAC 2-8-4, the Permittee shall demonstrate compliance with the sulfur content of the steel slag as specified in Condition D.1.3(l) utilizing one of the following options:
 - (1) Maintaining all records of vendor analyses or certifications of steel slag delivered; or
 - (2) Analyzing a sample of each steel slag delivery, if no vendor analyses or certifications are available, to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 120 MMBtu/hr burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.
- A determination of noncompliance pursuant to any of the methods specified in (b) through (c) above shall not be refuted by evidence of compliance pursuant to the other method.
- (d) Pursuant to 326 IAC 2-8-4, the Permittee shall demonstrate compliance with the chlorine content, ash content, and lead content of the re-refined waste oil as specified in Condition D.1.6 by providing vendor analysis of fuel delivered, accompanied by a vendor certification.

D.1.11 Particulate Matter (PM, PM10, and PM2.5)

In order to demonstrate the compliance status with Conditions D.1.1, D.1.2 and D.1.3(e) and D.1.3(f), the baghouse for particulate control shall be operation and shall control emissions from the dryer/mixer at all times that the dryer/mixer is in operation.

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

D.1.12 Visible Emissions Notations

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

D.1.13 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with the drum dryer/mixer, at least once per day when the drum dryer/mixer is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps, shall be considered a deviation from this permit.

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

D.1.14 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the 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 baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

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

D.1.15 Record Keeping Requirement

- (a) To document the compliance status with Conditions D.1.2(a), D.1.3(a), D.1.3(b), D.1.3(c), D.1.3(d), D.1.5, and D.1.6(a), the Permittee shall keep monthly records of the amount of asphalt processed through the dryer/mixer, the amount of blast furnace and steel slag used, and the amount of re-refined waste oil used.

- (b) To document the compliance status with Conditions D.1.3, D.1.4, D.1.5, D.1.6, and D.1.7 the Permittee shall maintain records in accordance with (1) through (10) below. Records maintained for (1) through (10) below shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3, D.1.4, D.1.5, D.1.6, and D.1.7.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide (SO₂) emission rates for each fuel used at the source since the last compliance determination period;
 - (3) Actual waste oil usage, ash, chlorine, and lead content, and equivalent hydrogen chloride (HCL) emission rate for waste oil used at the source since the last compliance determination period;
 - (4) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period;
 - (5) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Fuel supplier certifications;
 - (ii) The name of the fuel supplier; and
 - (iii) A statement from the fuel supplier that certifies the sulfur content of the waste oil, and the chlorine content of waste oil.
 - (6) Actual blast furnace and steel slag usage, sulfur content, and equivalent sulfur dioxide (SO₂) emission rates for all blast furnace and steel slag used at the source since the last compliance determination period;
 - (7) A certification, signed by the owner or operator, that the records of the blast furnace and steel slag supplier certifications represent all of the blast furnace and steel slag used during the period;
 - (8) If the slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Blast furnace and steel slag supplier certifications;
 - (ii) The name of the blast furnace and steel slag supplier; and

- (iii) A statement from the blast furnace and steel slag supplier that certifies the sulfur content of the blast furnace and steel slag.
- (9) A certification, signed by the owner or operator, that the records of the shingle supplier certifications represent all of the shingles used during the period; and
- (10) If the shingle supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Shingle supplier certifications;
 - (ii) The name of the shingle supplier(s); and
 - (iii) A statement from the shingle supplier(s) that certifies the asbestos content of the shingles from their company.
- (c) To document the compliance status with Condition D.1.11, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack (SV-1) exhaust once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (d) To document the compliance status with Condition D.1.12, the Permittee shall maintain records once per day of the pressure drop and the scrubbing liquid (water) flow rate during normal operation. The Permittee shall include in its daily record when the pressure drop reading and/or the scrubbing liquid (water) flow rate is not taken and the reason for the lack of a pressure drop reading and/or the scrubbing liquid (water) flow rate (e.g., the process did not operate that day).
- (e) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.16 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.2(a), D.1.3(a), D.1.3(b), D.1.3(c), D.1.3(d), D.1.5, and D.1.6(a), shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) one (1) portable tertiary crusher, with a maximum capacity of 300 tons RAP or concrete per hour, constructed in 1999, using water spray for fugitive particulate emissions control.

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

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

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

D.2.1 Particulate Matter (PM) [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1, particulate matter (PM) emissions from the portable tertiary crusher shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf) for particulate matter.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) production of stockpile mix (coldmix) asphalt;

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

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

D.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]

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

- (a) Penetrating prime coating
- (b) Stockpile storage
- (c) Application during the months of November, December, January, February and March.

D.3.2 Cold-Mix (Stockpile Mix) VOC Usage [326 IAC 2-8-4] [236 IAC 2-3]

Pursuant to 326 IAC 2-8-4, the amount of VOC solvent used in emulsified asphalt shall not exceed 9.6 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

Compliance with this condition, in conjunction with the PTE of the other emissions units at the source will limit source-wide VOC to less than 25 tons per 12 consecutive month period. Therefore, the requirements of 326 IAC 2-7 (Part 70) and 326 IAC 2-3 (Emission Offset are not applicable.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.3.3 Record Keeping Requirements

To document compliance with Condition D.3.2, the Permittee shall maintain records in accordance with (a) through (d) below. Records maintained for (a) through (d) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.3.2.

- (a) Calendar dates covered in the compliance determination period;
- (b) Emulsified asphalt binder usage per month since the last compliance determination period;
- (c) VOC solvent content by weight of the emulsified asphalt binder used each month; and
- (d) Amount of VOC solvent used in the production of cold mix asphalt, and the amount of

VOC emitted each month.

All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.2 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 not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) one (1) 1,000 gallon #2 fuel oil storage tank (ID No. TV1) [326 IAC 8-9];
- (b) three (3) 30,000 gallon liquid asphalt storage tanks (ID Nos. TV3, TV4, and TV7), both constructed in 1995 [326 IAC 8-9];
- (c) one (1) 20,000 gallon liquid asphalt storage tank (ID No. TV5), constructed in 1995 [326 IAC 8-9];
- (d) one (1) 20,000 gallon recycled oil storage tank (ID No. TV6) [326 IAC 8-9]; and

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

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

D.4.1 Volatile Organic Compounds (VOC) [326 IAC 8-9-6]

The owner or operator of tanks TV1, TV3, TV4, TV5, TV6, and TV7 shall maintain a record for the life of the vessel and submit to the department a report containing the following information for each vessel:

- (1) The vessel identification number.
- (2) The vessel dimensions.
- (3) The vessel capacity.
- (4) A description of the emission control equipment for each vessel.

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) one (1) hot asphalt drum dryer/mixer, constructed in 1995, capable of processing 350 tons per hour of raw material, equipped with one (1) 120 million British thermal units per hour (MMBtu/hr) natural gas-fired burner using re-refined waste oil as backup fuel, using a jet pulse baghouse for controlling particulate matter (PM) emissions, and exhausting at one (1) stack (ID No. S-1). The dryer/mixer uses blast furnace slag, steel slag, and asbestos-free ground shingles in its aggregate mix. The shingles are ground off-site.

Under 40 CFR 60, Subpart I, this dryer/mixer is considered an affected facility.

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

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]

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

Pursuant to 40 CFR 60, Subpart I, the Permittee shall comply with the provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the aggregate dryer/mixer in accordance with the schedule in 40 CFR 60, Subpart A.

E.1.2 NSPS, Requirements [40 CFR Part 60, Subpart I] [326 IAC 12-1]

Pursuant to CFR Part 60, Subpart I, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart I (NSPS for Hot Mix Asphalt Facilities), which are incorporated by reference as 326 IAC 12-1 for the aggregate dryer/mixer as specified as follows:

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

40 CFR Part 60, Subpart I is shown in its entirety in Attachment B of this document.

E.1.3 Testing Requirements [326 IAC 2-1.1-11]

The Permittee shall perform the stack testing as required under NSPS 40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner to document compliance with Condition E.1.2. These tests shall be repeated at least every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

SECTION E.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) one (1) portable tertiary crusher, with a maximum capacity of 300 tons RAP or concrete per hour, constructed in 1999, using water spray for fugitive particulate emissions control.

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

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

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]

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

Pursuant to 40 CFR 60, Subpart OOO, the Permittee shall comply with the provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12, for the crusher in accordance with the schedule in 40 CFR 60, Subpart A.

E.2.2 NSPS, Requirements [40 CFR Part 60, Subpart OOO] [326 IAC 12]

Pursuant to CFR Part 60, Subpart OOO, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart OOO, which are incorporated by reference as 326 IAC 12 for the crusher as specified as follows:

- (a) 40 CFR 60.670(a)
- (b) 40 CFR 60.670(b)
- (c) 40 CFR 60.670(d)
- (d) 40 CFR 60.670(e).
- (e) 40 CFR 60.670(f).
- (f) 40 CFR 60.671.
- (g) 40 CFR 60.672(a).
- (h) 40 CFR 60.672(b).
- (i) 40 CFR 60.672(c).
- (j) 40 CFR 60.672(d).
- (k) 40 CFR 60.673.
- (l) 40 CFR 60.675(a). (Testing)
- (m) 40 CFR 60.675(b)
- (n) 40 CFR 60.675(c).
- (o) 40 CFR 60.675(f).
- (p) 40 CFR 60.675(g).
- (q) 40 CFR 60.676(a)
- (r) 40 CFR 60.676(f)
- (s) 40 CFR 60.676(g)
- (t) 40 CFR 60.676(h)
- (u) 40 CFR 60.676(i)
- (v) 40 CFR 60.676(j)

40 CFR Part 60, Subpart OOO is shown in its entirety in Attachment C to this document.

E.2.3 Testing Requirements [326 IAC 2-1.1-11]

The Permittee shall perform the stack testing as required under NSPS 40 CFR 60, Subpart OOO, utilizing methods as approved by the Commissioner to document compliance with Condition E.2.2. These tests shall be repeated at least every five (5) years from the date of the last valid

compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

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

Source Name: Walsh & Kelly
Source Address: 1700 East Main Street, Griffith, Indiana 46319
FESOP Permit No.: F089-31548-03215

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 & Kelly
Source Address: 1700 East Main Street, Griffith, Indiana 46319
FESOP Permit No.: F089-31548-03215

This form consists of 2 pages

Page 1 of 2

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

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

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

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

Page 2 of 2

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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

FESOP Quarterly Report

Source Name: Walsh & Kelly
Source Address: 1700 East Main Street, Griffith, Indiana 46319
FESOP Permit No.: F089-31548-03215
Facility: Dryer/mixer
Parameter: PM, PM10, PM2.5, VOC and CO emission Limit:
830,250 tons per year of Asphalt Produced per twelve (12) consecutive month
period

YEAR: _____

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

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

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

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

FESOP Quarterly Report

Source Name: Walsh & Kelly
Source Address: 1700 East Main Street, Griffith, Indiana 46319
FESOP Permit No.: F089-31548-03215
Facility: Dryer/mixer
Parameter: SO2 emissions
Limit: 100,000 tons blast furnace slag per year

YEAR: _____

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

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

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

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

FESOP Quarterly Report

Source Name: Walsh & Kelly
Source Address: 1700 East Main Street, Griffith, Indiana 46319
FESOP Permit No.: F089-31548-03215
Facility: Dryer/mixer Steel
Parameter: SO2 emissions
Limit: 100,000 tons steel slag per year

YEAR: _____

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

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

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

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

FESOP Quarterly Report

Source Name: Walsh & Kelly
Source Address: 1700 East Main Street, Griffith, Indiana 46319
FESOP Permit No.: F089-31548-03215
Facility: Dryer/mixer
Parameter: SO2 and HAP emissionsLimit: 740,725 gallons per
year of Re-refined Waste Oil Usage

YEAR: _____

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

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

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

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

FESOP Quarterly Report

Source Name: Walsh & Kelly
Source Address: 1700 East Main Street, Griffith, Indiana 46319
FESOP Permit No.: F089-31548-03215
Facility: Cold Mix Asphalt
Parameter: VOC emissions
Limit: Not to exceed 17.88 tons VOC Solvent Used in Emulsified Asphalt per 12 consecutive month period.

YEAR: _____

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

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

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

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

Source Name: Walsh & Kelly
 Source Address: 1700 East Main Street, Griffith, Indiana 46319
 FESOP Permit No.: F089-31548-03215

Months: _____ **to** _____ **Year:** _____

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

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

ATTACHMENT A

Fugitive Dust Control Plan Revised May 31, 2012

Walsh & Kelly, Inc.
1700 E. Main Street
Griffith, Indiana 46319

SECTION 1 - INTRODUCTION

The following control plan, when implemented, is designed to reduce uncontrolled fugitive dust generated from paved roadways and areas, unpaved roadways and areas, recyclable material piles, sand piles, and aggregate piles in order to eliminate fugitive dust from crossing the property boundary.

The plan shall be implemented on a year-round basis until such time as another plan is approved or ordered by the Indiana Department of Environmental Management (IDEM).

The person on site responsible for implementing the plan is:

Walsh & Kelly, Inc.
James Lampa
1700 E. Main Street
Griffith, Indiana 46319

SECTION 2 – PAVED ROADS AND AREAS

Dust from paved roads and areas will be controlled by sweeping or water spraying and shall be performed on an as needed basis to prevent visible fugitive dust from crossing the Walsh & Kelly property line, as determined by a trained employee, from these areas. The traffic on paved roads consists predominantly of tri-axial dump trucks with occasional front end loader traffic.

SECTION 3 – UNPAVED ROADS AND AREAS

Unpaved roads and areas at the facility shall be sprayed with water, on an as needed basis, for dust control to prevent fugitive dust from crossing the Walsh & Kelly property lines. The traffic on unpaved roads consists mainly of front end loaders transferring material.

SECTION 4 – OPEN MATERIAL STORAGE PILES

Open recyclable material, sand, and aggregate storage piles at the facility shall be sprayed with water, on an as needed basis, for dust control to prevent fugitive dust from crossing the Walsh & Kelly property lines.

SECTION 5 – MATERIAL HANDLING

Material handling equipment will be used to maintain the recyclable material storage piles. Up to 350 tons of recyclable material, sand, and aggregate can be transferred per hour. Fugitive emissions from loading and unloading of recyclable material, sand, and aggregate storage piles shall be controlled by on or more of the following: spraying with water, on an as needed basis, the material storage piles, outdoor material screener/transporters, and reduction of the free-fall distance between the front-end loader and the

aggregate storage bins.

SECTION 6 – MONITORING AND RECORD KEEPING

The following daily readings shall be recorded when the source is in operation:

1. Visible emission (VE) readings of the following areas:
 - a. Paved and unpaved roads
 - b. Storage piles

SECTION 7 – COMPLIANCE SCHEDULE

Currently, Walsh & Kelly is adhering to the original Fugitive Dust Control Plan, submitted on October 10, 1996. Once this revised plan is incorporated into the air permit renewal and issued, Walsh & Kelly will adhere to the contents of this plan.

Attachment B
NSPS, 40 CFR Part 60, Subpart I (Hot Mix Asphalt Plants)

§ 60.90 *Applicability and designation of affected facility.*

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

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

§ 60.91 *Definitions.*

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

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

§ 60.92 *Standard for particulate matter.*

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

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

(2) Exhibit 20 percent opacity, or greater.

§ 60.93 *Test methods and procedures.*

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

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

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

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

Attachment C
NSPS, 40 CFR Part 60, Subpart OOO (Mineral Processing)

Subpart OOO—Standards of Performance for Nonmetallic Mineral Processing Plants

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

§ 60.670 Applicability and designation of affected facility.

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

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

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

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

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

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

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

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

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

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

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

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

§ 60.671 Definitions.

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

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

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

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

Building means any frame structure with a roof.

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

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

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

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

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

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

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

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

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

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

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

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

- (1) Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.
- (2) Sand and Gravel.
- (3) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.
- (4) Rock Salt.
- (5) Gypsum (natural or synthetic).
- (6) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.
- (7) Pumice.
- (8) Gilsonite.
- (9) Talc and Pyrophyllite.
- (10) Boron, including Borax, Kernite, and Colemanite.
- (11) Barite.
- (12) Fluorospar.

(13) Feldspar.

(14) Diatomite.

(15) Perlite.

(16) Vermiculite.

(17) Mica.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 60.672 Standard for particulate matter (PM).

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

(b) Affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11. The requirements in Table 3 of this subpart apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems.

(c) [Reserved]

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

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

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

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

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

§ 60.673 Reconstruction.

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

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

§ 60.674 Monitoring of operations.

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

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

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

(b) The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control emissions from the affected facility must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expeditiously as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under §60.676(b).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(i) Installation of the bag leak detection system;

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

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

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

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

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

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

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

(ii) Sealing off defective bags or filter media;

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

(iv) Sealing off a defective fabric filter compartment;

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

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

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

§ 60.675 Test methods and procedures.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(3) Method 5l 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 5l (40 CFR part 60, Appendix A-3) may be useful for affected facilities that operate for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations.

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

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

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

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

(2) For a screening operation:

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

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

(3) For a conveyor belt:

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

(ii) The width of the replacement conveyor belt.

(4) For a storage bin:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table 1 to Subpart 000 of Part 60—Exceptions to Applicability of Subpart A to Subpart 000

Subpart A reference	Applies to subpart 000	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.

Table 2 to Subpart OOO of Part 60—Stack Emission Limits for Affected Facilities With Capture Systems

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

^aExceptions to the PM limit apply for individual enclosed storage bins and other equipment. See §60.672(d) through (f).

^bThe stack opacity limit and associated opacity testing requirements do not apply for affected facilities using wet scrubbers.

Table 3 to Subpart OOO of Part 60—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	The owner or operator must meet the following fugitive emissions limit for crushers at which a capture system is not	The owner or operator must demonstrate compliance with these limits by conducting * * *

	stations or from any other affected facility (as defined in §§60.670 and 60.671) * * *	used * * *	
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.

Indiana Department of Environmental Management
Office of Air Quality

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

Source Background and Description
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Source Name:	Walsh & Kelly, Inc.
Source Location:	1700 East Main Street, Griffith, Indiana 46319
County:	Lake
SIC Code:	2951
Permit Renewal No.:	F089-31548-03215
Permit Reviewer:	Jack Harmon

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Walsh & Kelly, Inc. relating to the operation of a stationary hot mix asphalt-drum mix plant. On February 24, 2012, Walsh & Kelly, Inc. submitted an application to the OAQ requesting to renew its operating permit. Additional information was received on March 5, March 7, and May 22, 2012. Walsh & Kelly, Inc. was issued its second FESOP Renewal (F085-23215-00527) on December 13, 2007. There have been no other approvals since that time.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

- (a) one (1) hot asphalt drum dryer/mixer, constructed in 1995, capable of processing 350 tons per hour of raw material, equipped with one (1) 120 million British thermal units per hour (MMBtu/hr) natural gas-fired burner using re-refined waste oil as backup fuel, using a jet pulse baghouse for controlling particulate matter (PM) emissions, and exhausting at one (1) stack (ID No. S-1). The dryer/mixer uses blast furnace slag, steel slag, and asbestos-free ground shingles in its aggregate mix. The shingles are ground off-site.

Under 40 CFR 60, Subpart I, this dryer/mixer is considered an affected facility.

- (b) one (1) portable tertiary crusher, with a maximum capacity of 300 tons RAP or concrete per hour, constructed in 1999, using water spray for fugitive particulate emissions control.

Under 40 CFR 60, Subpart OOO, this tertiary crusher is considered an affected facility;

- (c) production of stockpile mix (cold mix) asphalt;
- (d) general material conveying and handling operations, including:
- (1) six (6) hot asphalt mix storage bins, each with a capacity of 300 tons;
 - (2) ten (10) raw material feeder bins, each with a capacity of 30 tons;
 - (3) three (3) recycled asphalt feeder bins, each with a capacity of 30 tons;
 - (4) four (4) storage piles with a maximum total storage capacity of 109,000 tons;
 - (5) one (1) hot mix slat conveyor with a maximum capacity of 500 tons per hour;

- (6) one (1) virgin aggregate conveyor with a maximum capacity of 400 tons per hour; and
- (7) one (1) recycled asphalt conveyor with a maximum capacity of 200 tons per hour.

Under 40 CFR 60, Subpart I, this hot mix asphalt plant is considered an affected facility.

Emission Units and Pollution Control Equipment Constructed and Operated without a Permit

The source also consists of the following emission units that were constructed and/or are operating without a permit:

- (a) General material conveying and handling operations, including:
 - (1) Two (2) hot asphalt mix storage bins, each with a capacity of 300 tons, constructed and began operating in 2011;
- (b) Insignificant activities, including:
 - (1) One (13) 30,000 gallon liquid asphalt storage tank, identified as TV7, constructed and began operating in 2011;
- (c) The usage of blast furnace slag and steel slag in the drum mixer/dryer up to a maximum usage of 10% of the aggregate mix, since 2007, without proper permit approvals;
- (d) The usage of ground shingles in the aggregate mix of the dryer/mixer without proper permit approvals.

Emission Units and Pollution Control Equipment Removed From the Source

The source has removed no emission units.

Insignificant Activities

The source also consists of the following insignificant activities:

- (a) one (1) natural gas fired hot oil heater, with a maximum rated capacity of 1.41 million British thermal units per hour, exhausting at one (1) stack (ID No. S-2);
- (b) one (1) 1,000 gallon #2 fuel oil storage tank (ID No. TV1) [326 IAC 8-9];
- (c) three (3) 30,000 gallon liquid asphalt storage tanks (ID Nos. TV3, TV4, and TV7), two constructed in 1995, and TV7 constructed in 2011;
- (d) one (1) 20,000 gallon liquid asphalt storage tank (ID No. TV5), constructed in 1995 [326 IAC 8-9];
- (e) one (1) 20,000 gallon recycled oil storage tank (ID No. TV6) [326 IAC 8-9]; and
- (f) unpaved roads with public access [326 IAC 6-4].

Existing Approvals

Since the issuance of the FESOP Renewal (085-23215-03215) on December 13, 2007, the source has had no additional approvals.

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.

Enforcement Issue

IDEM is aware that the source has added the use of steel slag, blast furnace slag, and ground shingles to its aggregate mix in its dryer/mixer operation prior to receipt of the proper permit, and that the source has constructed and operated equipment prior to the receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled "Emission Units and Pollution Control Equipment Constructed and Operated without a Permit".

- (a) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Lake County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of East Chicago bounded by Columbus Drive on the north; the Indiana Harbor Canal on the west; 148 th Street, if extended, on the south; and Euclid Avenue on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of East Chicago and Lake County.
O ₃	40 CFR 81.315 as amended by 77 FR 34228. ^{1,2}
PM ₁₀	Attainment effective March 11, 2003, for the cities of East Chicago, Hammond, Whiting, and Gary. Unclassifiable effective November 15, 1990, for the remainder of Lake County.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Nonattainment Severe 17 effective November 15, 1990, for the Chicago-Gary-Lake County area for the 1-hour ozone standard which was revoked effective June 15, 2005. ² The department is filing a legal challenge to U.S. EPA's designation in 77 FR 34228 and seeking a stay of effectiveness of this designation. Unclassifiable or attainment effective February 6, 2012, for PM _{2.5} .	

- (a) **Ozone Standards**
 Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Lake County has been designated as nonattainment for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (b) **PM_{2.5}**
 Lake County has been classified as attainment for PM_{2.5}. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM_{2.5} significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore,

direct PM_{2.5} and SO₂ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

- (c) Other Criteria Pollutants
 Lake County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions, from the affected facilities to which the New Source Performance Standard is applicable, are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Unrestricted Potential Emissions	
Pollutant	Tons/year
PM	Greater than 250
PM ₁₀	Greater than 250
PM _{2.5}	Greater than 250
SO ₂	Greater than 250
NO _x	Less than 100
VOC	Greater than 250
CO	Greater than 100, less than 250
GHGs as CO ₂ e	Less than 100,000
Single HAP	Greater than 10
Total HAP	Greater than 25

HAPs	tons/year
Xylenes	Greater than 10
HCl	Greater than 10
Formaldehyde	Less than 10
Total	Greater than 25

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, PM_{2.5}, SO₂, NO_x, VOC, and CO is equal to or greater than 100 tons per year. However, the Permittee has agreed to limit the source's PM₁₀, PM_{2.5}, SO₂, NO_x, VOC, and CO emissions to less than Title V levels, therefore the Permittee will be issued a FESOP Renewal.

- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs is less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) 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 Permittee has agreed to limit the source's single HAP emissions and total HAP emissions below Title V levels. Therefore, the Permittee will be issued a FESOP Renewal.

Actual Emissions

The following table shows the actual emissions as reported by the source. This information reflects the 2002 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	--
PM ₁₀	2.0
PM _{2.5}	1.0
SO ₂	0.0
VOC	1.0
CO	5.0
NO _x	6.0
HAP (Lead)	0.0
HAP (Ammonia)	0.0

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.

Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)										
Process Description	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO	CO ₂ e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	23.70	18.89	18.89	24.50***	98.38	2.85	43.50	62,600.32	3.72	2.44 (HCl)
Dryer/Mixer (Process)	193.57	81.93	91.37	29.00	27.50	13.28	65.00	16,626.00	5.33	1.55 (formaldehyde)
Dryer/Mixer Slag Processing	0.00	0.00	0.00	37.00	0.00	0.00	0.00	0.00	0.00	0.00
Hot Oil Heater Fuel Combustion/Process (worst case)	0.01	0.05	0.05	0.00	0.62	0.03	0.52	1,235.16	0.01	0.011 (hexane)
Diesel-Fired Generator < 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00 (formaldehyde)
Diesel-Fired Generator > 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 (benzene)
Worst Case Emissions	193.58	81.98	91.41	66.00	99.00	13.32	65.52	63,835.48	5.34	2.44 (hydrogen)

										chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.55	0.55	0.55	0.00	0.00	7.11	1.44	0.00	0.14	0.04 (formaldehyde)
Material Storage Piles	0.29	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material Processing and Handling	3.23	1.53	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved and Paved Roads (worst case)	35.48	9.04	0.90	0.00	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	4.47	0.00	0.00	19.42	6.70 (xylenes)
Gasoline Fuel Transfer and Dispensing	0.00	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	0.00	negl	negl
Total Fugitive Emissions	55.42	17.02	7.59	0.00	0.00	11.58	1.44	0.00	19.56	6.70 (xylenes)
Total PTE of the Entire Source	249.00	99.00	99.00	66.00	99.00	24.90	66.96	63,835.48	24.90	6.70 (xylenes)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	100	NA	NA	NA	NA
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 air pollutant".										
**PM _{2.5} listed is direct PM _{2.5} .										
*** Dryer/mixer for this source has specific source limitations under 326 IAC 7-4.1-21 of 740,725 gallons of waste oil per year; sulfur content of 0.45% by weight, and SO ₂ emissions of less than 25 tons per year from the dryer.										

(a) FESOP Status

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

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

- (1) The amount of asphalt produced shall not exceed 830,250 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is the same as the existing permit.
- (2) The amount of blast furnace slag used in the aggregate mix shall not exceed 100,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This is a new requirement because the source is being permitted to use slag with this issuance of this permit. This is a Title I change.
- (3) The amount of steel slag used in the aggregate mix shall not exceed 100,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each

month. This is a new requirement because the source is being permitted to use slag with this issuance of this permit. This is a Title I change.

- (4) The amount of re-refined waste oil used shall not exceed 740,725 gallons per twelve (12) consecutive month period, with compliance shown at the end of each month.
- (5) PM10 emissions from the dryer/mixer shall not exceed 0.204 pounds of PM10 per ton of asphalt produced.
- (6) PM2.5 emissions from the dryer/mixer shall not exceed 0.223 pounds of PM2.5 per ton of asphalt produced.
- (7) CO emissions from the dryer/mixer shall not exceed 0.130 pounds of CO per ton of asphalt produced.
- (8) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.
- (9) SO2 emissions from the use of blast furnace slag shall not exceed 0.74 pounds per ton of blast furnace slag used. This is a new requirement because the source is being permitted to use slag with this issuance of this permit. This is a Title I change.
- (10) SO2 emission from the use of steel slag shall not exceed 0.0014 pounds per ton of steel slag used. This is a new requirement because the source is being permitted to use slag with this issuance of this permit. This is a Title I change.
- (11) The sulfur content of the blast furnace slag used shall not exceed 1.50 percent sulfur, by weight. This is a new requirement because the source is being permitted to use slag with this issuance of this permit. This is a Title I change.
- (12) The sulfur content of the steel slag used shall not exceed 0.66 percent sulfur, by weight. This is a new requirement because the source is being permitted to use slag with this issuance of this permit. This is a Title I change.
- (13) The sulfur content of the re-refined waste oil used shall not exceed 0.45 percent sulfur, by weight.

Compliance with these limits, combined with limited potential to emit PM10, PM2.5, SO2, VOC, and CO from all other emission units, shall limit source-wide total potential to emit of PM₁₀, PM_{2.5}, SO₂, and CO emissions to less than one hundred (100) tons per twelve (12) consecutive month period, each, and shall limit source-wide VOC emissions to less than twenty-five (25) tons per twelve (12) tons per 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), 326 IAC 2-3 (Emission Offset) and 326 IAC 8-7 not applicable.

(b) PSD Minor Source

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

- (1) The amount of asphalt produced shall not exceed 830,250 tons of asphalt per twelve (12) consecutive month period, with compliance determined at the end of each month. This is the same as the existing permit.
- (2) PM emissions from the dryer/mixer shall not exceed 0.489 pounds of PM per ton of asphalt produced.

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

- (c) **Emission Offset Minor Source**
This source would be subject to the provisions of 326 IAC 2-3 (Emission Offset) because Lake County is classified as marginal nonattainment for ozone. The source has elected to limit its annual production, and its VOC emissions from the cold mix operation, thereby limiting its VOC emissions to less than 100 tons per twelve (12) consecutive month period. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply. See VOC limit under FESOP status.

Federal Rule Applicability

Compliance Monitoring Assurance (CAM)

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

New Source Performance Standards (NSPS)

- (b) The hot asphalt drum dryer/mixer, constructed in 1995, 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 it was constructed after June 11, 1973.

The aggregate drum dryer/mixer is subject to the following portions of 40 CFR 60, Subpart I:

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

The provisions of 40 CFR 60 Subpart A – General Provisions, which are incorporated as 326 IAC 12-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 60 Subpart I.

- (c) The one (1) 300 ton per hour portable tertiary crusher, constructed in 1999, 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) because it reduces the size of nonmetallic minerals embedded in recycled asphalt pavement at a hot mix asphalt plant prior to the first storage silo or bin.

The portable tertiary crusher is subject to the following portions of 40 CFR 60, Subpart OOO. This is an existing requirement.

- (1) 40 CFR 60.670(a)
- (2) 40 CFR 60.670(b)
- (3) 40 CFR 60.670(d)
- (4) 40 CFR 60.670(e).
- (5) 40 CFR 60.670(f).
- (6) 40 CFR 60.671.
- (7) 40 CFR 60.672(a).
- (8) 40 CFR 60.672(b).
- (9) 40 CFR 60.672(c).
- (10) 40 CFR 60.672(d).

- (11) 40 CFR 60.673.
- (12) 40 CFR 60.675(a).
- (13) 40 CFR 60.675(b)
- (14) 40 CFR 60.675(c).
- (15) 40 CFR 60.675(f).
- (16) 40 CFR 60.675(g).
- (17) 40 CFR 60.676(a)
- (18) 40 CFR 60.676(f)
- (19) 40 CFR 60.676(g)
- (20) 40 CFR 60.676(h)
- (21) 40 CFR 60.676(i)
- (22) 40 CFR 60.676(j)

The provisions of 40 CFR 60 Subpart A – General Provisions, which are incorporated as 326 IAC 12-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 60 Subpart OOO.

- (d) The one (1) 1,000 gallon #2 fuel oil storage tank (ID No. TV1) 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” because it has a storage capacity less than 75 cubic meters (m^3) (19,813 gallons). Therefore pursuant to 40 CFR 60.110b(a), they are not subject to this rule and the requirements of this rule are not included in the permit.
- (e) The three (3) 30,000 gallon storage tanks, identified as TV3, TV4, and TV7, and two (2) 20,000 gallon storage tanks, identified as TV5 and TV6 are not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.110, Subpart Kb) “Standards of Performance for Volatile Organic Liquid Storage Vessels”. Each storage tank has a capacity greater than 75 m^3 (19,813 gallons) but less than 151 m^3 (39,890 gallons) and the liquid stored in the tank has a maximum true vapor pressures of less than 15.0 kPa. Therefore, pursuant to 40 CFR 60.110b(b), these tanks are exempt from this rule and the requirements of this rule are not included in the permit.
- (f) 40 CFR 60, Subpart IIII - NSPS for Stationary Compression Ignition Internal Combustion Engines The requirements of the New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart IIII (4I) (326 IAC 12), are not included in the permit, because the crusher is not a nonroad engine, as defined in 40 CFR 1068.30, and is, therefore not considered a stationary internal combustion engine as defined in 40 CFR 60.4219.
- (g) There are no other New Source Performance Standards (NSPS) applicable to this source.

National Emissions Standards for Hazardous Air Pollutants (NESHAP)

- (h) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Equipment Leaks, 40 CFR 63, Subpart H, are not included in the permit for the liquid storage tanks because this rule only applies if another NESHAP subpart references Subpart H as a requirement. There are no other applicable NESHAP subparts that reference this subpart; therefore, the requirements of 40 CFR 63, Subpart H do not apply.
- (i) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Equipment Leaks - Control Level 1, 40 CFR 63, Subpart TT, are not included in the permit for the liquid storage tanks because this rule only applies if another NESHAP subpart references Subpart TT as a requirement for air pollution control. There are no other applicable NESHAP subparts that reference this subpart; therefore, the requirements of 40 CFR 63, Subpart TT do not apply.
- (j) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Equipment Leaks - Control Level 2 Standards, 40 CFR 63, Subpart UU, are not included in the

permit for the liquid storage tanks because this rule only applies if another NESHAP subpart references Subpart UU as a requirement for air pollution control. There are no other applicable NESHAP subparts that reference this subpart; therefore, the requirements of 40 CFR 63, Subpart UU do not apply.

- (k) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Equipment Leaks - Control Level 2, 40 CFR 63, Subpart WW, are not included in the permit for the liquid storage tanks because this rule only applies if another NESHAP subpart references Subpart WW as a requirement for air pollution control. There are no other applicable NESHAP subparts that reference this subpart; therefore, the requirements of 40 CFR 63, Subpart WW do not apply.
- (l) The requirements of the National Emission Standards for Hazardous Air Pollutant (NESHAP) for Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart LLLLL (5L) are not included in this permit because this source is not an asphalt processing facility, as defined in 40 CFR 63.8698 and is not a major source for HAPS. Therefore, the requirements of 40 CFR 63, Subpart 5L do not apply.
- (m) The requirements of the National Emission Standards for Hazardous Air Pollutant (NESHAP) for Asphalt Processing and Asphalt Roofing Manufacturing of Area Sources, 40 CFR 63, Subpart AAAAAAA (7A) are not included in this permit because this source is not an asphalt processing facility, as defined in 40 CFR 63.2 and, pursuant to 40 CFR 63.11559, this subpart does not apply to hot mix asphalt operations used in paving roads or hardstand. The products generated from this source are primarily for the purpose of paving roads. Therefore, the requirements of 40 CFR 63, Subpart 7A do not apply.
- (n) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63.6580, Subpart ZZZZ (4Z) (326 IAC 20-84), are not included in the permit, because the portable crusher does not meet the definition of a nonroad engine, as defined in 40 CFR 1068.30, and is therefore not considered a stationary reciprocating internal combustion engine, as defined in 40 CFR 63.6675.
- (o) There are no other National Emission Standards for Hazardous Air Pollutant (NESHAP) applicable to this source.

State Rule Applicability - Entire Source

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

The source is subject to 326 IAC 1-6-3.

326 IAC 1-7 (Stack Height Provisions)

The dryer/mixer is not subject to 326 IAC 1-7, Stack Height Provisions because, although stack S-1 serving the dryer/mixer has the potential to emit particulate greater than 25 tons per year and has the potential to emit sulfur dioxide greater than 25 tons per year, asphalt concrete plants are specifically exempted from the rule, pursuant to 326 IAC 1-7-5(c). Therefore, the requirements of 326 IAC 1-7 do not apply.

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

The applicability of 326 IAC 2-2 (Prevention of Significant Deterioration) is discussed in the Potential to Emit After Issuance section above.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting) because it is located in Lake County and its emissions of VOC and NO_x are each greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-6-3(a)(1)(B), annual reporting is required. An emission statement shall be submitted by April 15, 2013, and

every year thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 2-8-4 (FESOP)

The applicability of 326 IAC 2-8 (FESOP) is discussed in the Potential to Emit After Issuance section above.

326 IAC 5-1 (Opacity Limitations)

This source is subject to the opacity limitations specified in 326 IAC 5-1-2(2) because the source is located in Lake County, and located in the area bounded on the north by Lake Michigan, on the west by the Indiana-Illinois state line, on the south by U.S.30 from the state line to the intersection of I-465 to the intersection of I-94 then following I-94 to the Lake-Porter county line, and on the east by the Lake-Porter county line.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to the provisions of 326 IAC 6-4 because it contains source of fugitive dust. Therefore, the requirements of 326 IAC 6-4 apply.

326 IAC 6.8-1 (PM Limitations for Lake County)

This source is subject to 326 IAC 6.8 because it is located in Lake County and has the potential to emit particulate matter greater than 100 tons per year. Pursuant to 326 IAC 6.8-1-2(a), particulate matter (PM) emissions from the dryer/mixer shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf).

Compliance with this limit shall also demonstrate compliance with the PM emission limit under 40 CFR 60, Subpart I, since it is more stringent than the 0.04 gr/dscf required in Subpart I. The source can comply with this limit by using a baghouse control device for the dryer/mixer at all times that the dryer/mixer is operating.

326 IAC 6.8-10 (Lake County: Fugitive Particulate Matter)

This source is subject to the requirements of 326 IAC 6.8-10 because it has fugitive dust sources that have the potential to emit particulate matter greater than 5 tons per year. Therefore, the requirements of 326 IAC 6.8-10 apply.

The Permittee shall comply with these requirements by controlling fugitive particulate emissions according to the Fugitive Dust Control Plan, which was submitted October 10, 1996, and revised on May 31, 2012. The Fugitive Dust Control Plan is shown in Attachment A of the permit.

326 IAC 8-7 (Specific VOC Reductions for Lake, Porter, Clark, and Floyd Counties)

The requirements of this rule apply to stationary sources located in Lake, Porter, Clark and Floyd Counties that emit or have the potential to emit VOCs at levels equal to or greater than 25 tons per year in Lake and Porter Counties. This source is located in Lake County and is not subject to this rule because the potential to emit VOC from the entire source has been limited to less than 25 tons per year. Therefore, the requirements of 326 IAC 8-7 do not apply to the source. This is accomplished by limiting the asphalt production to 830,250 tons of asphalt per twelve (12) consecutive month period and by limiting the amount of VOC solvent used in cold mix emulsified asphalt to 9.6 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

326 IAC 12-1 (New Source Performance Standards)

The hot mix asphalt plant is required to comply with the requirements of 40 CFR 60, Subpart I, Standards of Performance for Hot Mix Asphalt Facilities, as described in the "Federal Rule Applicability" section of this TSD.

The Tertiary crusher is required to comply with the requirements of 40 CFR 60, Subpart OOO, Standards of Performance for Mineral Processing Plants, as described in the "Federal Rule Applicability" section of this TSD.

State Rule Applicability – Individual Facilities

Dryer/Mixer Unit

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

The aggregate mixing/drying operation is not subject to the requirements of 326 IAC 6-3-2. This rule does not apply because it is subject to the more stringent requirement under 326 IAC 6.8-1-2. Therefore, the requirements of 326 IAC 6-3-2 do not apply. .

326 IAC 6.8-1-2 (PM Limitations for Lake County)

This source is subject to 326 IAC 6.8 because it is located in Lake County and has the potential to emit particulate matter greater than 100 tons per year. Pursuant to 326 IAC 6.8-1-2(a), particulate matter (PM) emissions from the dryer/mixer shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf).

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The aggregate dryer/mixer emission unit is not subject to the requirements of 326 IAC 326 IAC 7-1.1 because this emission unit is subject to 326 IAC 7-4.1-21. Therefore, pursuant to 326 IAC 7-1.1-2, the requirements of 326 IAC 7-1.1 do not apply to this unit.

326 IAC 7-4.1-21 (Walsh and Kelly Sulfur Dioxide Limitations)

The dryer/mixer at this facility is subject to 326 IAC -7-4.1-21 because is this source is specifically listed in this rule, and has specific source limitations under 326 IAC 7-4.1-21.

Pursuant to 326 IAC 7-4.1-21, the Permittee shall comply with the following:

- (a) Usage of re-refined waste oil input into the burner of the dryer/mixer shall not exceed 740,725 gallons of waste oil per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month;
- (b) The sulfur content of the re-refined waste oil input into the burner of the dryer/mixer shall not exceed 0.45% by weight; and
- (c) SO₂ emissions from the dryer/mixer shall be less than 25 tons per year, and forty-two (42) pounds per hour.

326 IAC 8-1-6 (Volatile Organic Compounds)

The dryer/mixer is not subject to the requirements of 326 IAC 8-1-6 because the dryer/mixer process has VOC potential emissions less than 25 tons per twelve (12) consecutive month period, therefore requirements of 326 IAC 8-1-6 do not apply.

326 IAC 10-1 (Nitrogen Oxide Control in Clark and Floyd Counties)

This source is located in Lake County, and, therefore, is not subject to the requirements of 326 IAC 10-1. Therefore, 326 IAC 10-1 does not apply.

326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories)

This source does not operate a Portland cement kiln or a blast furnace gas boiler with a heat input greater than two hundred fifty million (250,000,000) British thermal units per hour. The one 100 million Btu burner is not subject to this rule, therefore the requirements of 326 IAC 10-3 are not applicable.

Portable Tertiary Crusher

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

The portable crusher at this source is not subject to the requirements of 326 IAC 6-3-2 because it is subject to the more stringent requirement under 326 IAC 6.8-1-2. Therefore, the requirements of 326 IAC 6-3-2 do not apply.

326 IAC 6.8-1 (PM Limitations for Lake County)

This source is subject to 326 IAC 6.8 because it is located in Lake County and has the potential to emit particulate matter greater than 100 tons per year. Pursuant to 326 IAC 6.8-1-2(a), particulate matter (PM) emissions from the portable tertiary crusher shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf).

The water spray particulate control operation shall be in operation at all times the portable tertiary crusher is in operation, in order to comply with this limit.

Hot Oil Heater

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

This emission unit is not subject to 326 IAC 326 IAC 7-1.1 because the hot oil operation has the potential to emit SO₂ emissions of less than 25 tons per twelve (12) consecutive month period. Therefore, the requirements of 326 IAC 7-1.1 do not apply.

Cold Mix Operations

326 IAC 8-5-2 (Asphalt paving rules)

This rule applies to any paving application constructed after January 1, 1980 located anywhere in the state. Pursuant to this rule, the source shall not 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 in 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 stockpile mix containing 7% (wt) emulsified asphalt binder, which contains 1% (wt) fuel oil, for a net fuel oil content in the stockpile mix of 0.07% (wt), which equates to less than 7% (by vol). Therefore, the cold mix operation is in compliance with 326 IAC 8-5-2.

Liquid Storage Vessels

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

Pursuant to 326 IAC 8-4-1 (Applicability) and 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities), all petroleum liquid storage vessels with capacities greater than one hundred fifty thousand (150,000) liters (39,000 gallons) containing VOC whose true vapor pressure is greater than 10.5 kPa (1.52 psi) shall comply with the requirements for external fixed and floating roof tanks and the specified record keeping and reporting requirements. Tanks TV1, TV3, TV4, TV5, TV6, and TV7 each have maximum capacities less than 39,000 gallons. Therefore, the requirements of this rule are not applicable to these facilities and are not included in this permit.

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)

Pursuant to 326 IAC 8-9-1, on and after October 1, 1995 stationary vessels used to store volatile organic liquids (VOL) must comply with the requirements of this rule if located in Clark, Floyd, Lake or Porter Counties. Stationary vessels with capacities less than 39,000 gallons are only subject to the reporting and record keeping requirements of this rule. The storage tanks TV1, TV3, TV4, TV5, TV6, and TV7 are located in Lake County and have a storage capacity less than 39,000 gallons; therefore they are subject to 326 IAC 8-9-6(a) and (b), as follows:

- (a) The owner or operator of tanks TV1, TV3, TV4, TV5, TV6, and TV7 shall maintain the records required by paragraph (b) for the life of the vessel.

- (b) The owner or operator of tanks TV1, TV3, TV4, TV5, TV6, and TV7 shall maintain a record and submit to the department a report containing the following information for each vessel:
- (1) The vessel identification number.
 - (2) The vessel dimensions.
 - (3) The vessel capacity.
 - (4) A description of the emission control equipment for each vessel, or a schedule for installation of emission control equipment on vessels with a certification that the emission control equipment meets the applicable standards.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a 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 Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements 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.

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

- (a) The aggregate dryer/mixer unit has applicable compliance determination conditions because the source has taken limits to remain a minor source, and emissions must continue to be verified. The source had its last demonstration of compliance with a stack test on the dryer/mixer stack on June 30, 2010 for PM and PM10.

The Permittee shall continue to perform PM, PM10, and PM2.5 on the dryer/mixer stack exhaust testing utilizing methods approved by the Commissioner at least once every five (5) years from the date of the last valid demonstration of compliance.

- (b) The shingles addition to the aggregate mix has compliance determination requirements in order to certify that the ground shingles do not contain asbestos, and for the source to retain its FESOP status. Compliance shall be determined utilizing one of the following options:
- (1) Providing shingle supplier certification that the recycled asphalt shingles (factory seconds and/or post consumer waste) do not contain asbestos; or
 - (2) Analyzing a sample of the recycled asphalt shingles (factory seconds and/or post consumer waste) delivery to determine the asbestos content of the shingles, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

- (c) Compliance shall be determined for each type of slag used in the aggregate mix, according to the

following:

- (1) Compliance with the blast furnace slag limitation shall be determined utilizing one of the following options:
 - (i) Maintaining all records of vendor analyses or certifications of blast furnace slag delivered; or
 - (ii) Analyzing a sample of each blast furnace slag delivery, if no vendor analyses or certifications are available, to determine the sulfur content of the blast furnace slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
 - (iii) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 120 MMBtu/hr burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

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

- (2) Compliance with the steel slag limitations shall be determined utilizing one of the following options.
 - (i) Maintaining all records of vendor analyses or certifications of steel slag delivered; or
 - (ii) Analyzing a sample of the steel slag delivery if no vendor analyses or certifications are available, at least once per quarter, to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
 - (iii) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 120 MMBtu/hr burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

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

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

Control	Parameter	Frequency	Range	Excursions and Exceedances
Dryer/mixer Baghouse	Water Pressure Drop	Daily	1 to 8 inches	Response Steps

Control	Parameter	Frequency	Range	Excursions and Exceedances
Dryer/mixer Baghouse	Visible Emissions	Daily	Normal-Abnormal	Response Steps

The range for the water pressure drop for the baghouse has been changed from a range of 1 to 6 inches in the previous permit to a range of 1 to 8 inches in this renewal at the request of the source in order to better represent the normal operating range of this baghouse. This represents a Title I change.

These monitoring conditions are necessary because the baghouse for the aggregate dryer/mixer must operate properly to be able to comply with 40 CFR 60, Subpart I, 326 IAC 6.8, and 326 IAC 2-8-4 (FESOP), and to render the requirements of 326 IAC 2-2 (PSD) not applicable.

Recommendation

The staff recommends to the Commissioner that the 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 February 24, 2012. Additional information was received on March 5, March 7, and May 22, 2012.

Conclusion

The operation of this stationary hot mix asphalt-drum plant shall be subject to the conditions of the attached FESOP Renewal No. 089-31548-03215.

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

Asphalt Plant Maximum Capacity - Drum Mix

Maximum Hourly Asphalt Production =	350	ton/hr									
Maximum Annual Asphalt Production =	3,066,000	ton/yr									
Maximum Annual Blast Furnace Slag Usage =	306,600	ton/yr	1.5	% sulfur							Max blast furnace slag usage is 10%
Maximum Annual Steel Slag Usage =	306,600	ton/yr	0.66	% sulfur							Max steel slag usage is 10%
Maximum Dryer Fuel Input Rate =	120.0	MMBtu/hr									
Natural Gas Usage =	1,036	MMCF/yr									
No. 2 Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur							
No. 4 Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur							
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur							
Propane Usage =	0	gal/yr, and	0.20	gr/100 ft3 sulfur							
Butane Usage =	0	gal/yr, and	0.22	gr/100 ft3 sulfur							
Used/Waste Oil Usage =	7,508,571	gal/yr, and	0.45	% sulfur	1.00	% ash	0.100	% chlorine,	0.010	% lead	
Diesel Fuel Usage - Generator < 600 HP =	0	gal/yr, and									
Diesel Fuel Usage - Generator > 600 HP =	0	gal/yr	0.50	% sulfur							
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production									
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production									
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production									
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production									
Unlimited CO Dryer/Mixer Emission Factor =	0.13	lb/ton of asphalt production									
Unlimited Blast Furnace Slag SO2 Dryer/Mixer Emission Factor =	0.74	lb/ton of slag processed									
Unlimited Steel Slag SO2 Dryer/Mixer Emission Factor =	0.0014	lb/ton of slag processed									

Unlimited/Uncontrolled Emissions

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO ₂ e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	240.27	191.47	191.47	248.35	98.44	3.75	43.52	82,964.85	28.80	24.78 (hydrogen chloride)
Dryer/Mixer (Process)	42,924.00	9,964.50	2,299.50	88.91	84.32	49.06	199.29	50,975.32	16.34	4.75 (formaldehyde)
Dryer/Mixer Slag Processing (worst case)	0	0	0	113.44	0	0	0	0.00	0	0
Hot Oil Heater Fuel Combustion/Process (worst case)	0.01	0.05	0.05	0.00	0.62	0.03	0.52	1,235.16	0.012	0.011 (hexane)
Diesel-Fired Generator < 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000 (formaldehyde)
Diesel-Fired Generator > 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000 (benzene)
Worst Case Emissions*	42,924.01	9,964.55	2,299.55	361.79	99.06	49.09	199.81	84,200.01	28.81	24.78 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	1.70	1.70	1.70	0	0	26.26	4.42	0	0.44	0.14 (formaldehyde)
Material Storage Piles	0.29	0.10	0.10	0	0	0	0	0	0	0
Material Processing and Handling	9.90	4.68	0.71	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	48.64	17.77	17.77	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	108.78	27.72	2.77	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	10,669.68	0	0	72.55	72.55 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0	0.00	0.00 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0
Total Fugitive Emissions	169.31	51.98	23.05	0.00	0.00	10,695.94	4.42	0.00	72.99	72.55 (xylenes)
Totals Unlimited/Uncontrolled PTE	43,093.32	10,016.52	2,322.60	361.79	99.06	10,745.03	204.23	84,200.01	101.81	72.55 (xylenes)

negl = negligible

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

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

Fuel component percentages provided by the source.

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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 Fuel Input Rate =	120	MMBtu/hr
Natural Gas Usage =	1,036	MMCF/yr
No. 2 Fuel Oil Usage =	0	gal/yr, and
No. 4 Fuel Oil Usage =	0	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and
Propane Usage =	0	gal/yr, and
Butane Usage =	0	gal/yr, and
Used/Waste Oil Usage =	7,508,571	gal/yr, and
		0.50 % sulfur
		0.50 % sulfur
		0.50 % sulfur
		0.20 gr/100 ft3 sulfur
		0.22 gr/100 ft3 sulfur
		0.45 % sulfur
		1.00 % ash
		0.100 % chlorine
		0.010 % lead

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							Worse Case Fuel (tons/yr)
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	
PM	1.9	2.0	7.0	7.815	0.5	0.6	64.0	0.98	0.00	0.00	0.00	0.000	0.000	240.27	240.27
PM10/PM2.5	7.6	3.3	8.3	9.315	0.5	0.6	51	3.94	0.00	0.00	0.00	0.000	0.000	191.47	191.47
SO2	0.6	71.0	75.0	78.5	0.020	0.020	66.2	0.31	0.00	0.00	0.00	0.000	0.000	248.35	248.35
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	98.44	0.00	0.00	0.00	0.00	0.00	71.33	98.44
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.85	0.00	0.00	0.00	0.00	0.00	3.75	3.75
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	43.5204	0.00	0.00	0.00	0.00	0.00	18.77	43.52
Hazardous Air Pollutant															
HCl							6.6							24.78	24.78
Antimony			5.25E-03	5.25E-03			negl			0.00E+00	0.00E+00			negl	0.0E+00
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	1.0E-04	0.00E+00	0.00E+00	0.00E+00			4.13E-01	4.1E-01
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	6.2E-06	0.00E+00	0.00E+00	0.00E+00			negl	6.2E-06
Cadmium	1.1E-03	4.2E-04	3.89E-04	3.89E-04			9.3E-03	5.7E-04	0.00E+00	0.00E+00	0.00E+00			3.49E-02	3.5E-02
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	7.3E-04	0.00E+00	0.00E+00	0.00E+00			7.51E-02	7.5E-02
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	4.4E-05	0.00E+00	0.00E+00	0.00E+00			7.88E-04	7.9E-04
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.6E-04	0.00E+00	0.00E+00	0.00E+00			2.1E+00	2.06
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	2.0E-04	0.00E+00	0.00E+00	0.00E+00			2.55E-01	0.26
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.3E-04	0.00E+00	0.00E+00	0.00E+00				1.3E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	1.1E-03	0.00E+00	0.00E+00	0.00E+00			4.13E-02	0.041
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.2E-05	0.00E+00	0.00E+00	0.00E+00			negl	1.2E-05
1,1,1-Trichloroethane			2.36E-04	2.36E-04						0.00E+00	0.00E+00				0.0E+00
1,3-Butadiene															0.0E+00
Acetaldehyde															0.0E+00
Acrolein															0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				1.1E-03	0.00E+00	0.00E+00					1.1E-03
Bis(2-ethylhexyl)phthalate							2.2E-03							8.26E-03	8.3E-03
Dichlorobenzene	1.2E-03						8.0E-07	6.2E-04						3.00E-06	6.2E-04
Ethylbenzene			6.36E-05	6.36E-05					0.00E+00	0.00E+00	0.00E+00				0.0E+00
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.9E-02	0.00E+00	0.00E+00	0.00E+00				0.039
Hexane	1.8E+00							0.93							0.933
Phenol							2.4E-03							9.01E-03	9.0E-03
Toluene	3.4E-03		6.20E-03	6.20E-03				1.8E-03	0.00E+00	0.00E+00	0.00E+00				1.8E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl	0.00E+00	0.00E+00	0.00E+00			1.47E-01	1.5E-01
Polycyclic Organic Matter		3.30E-03							0.00E+00						0.0E+00
Xylene			1.09E-04	1.09E-04						0.00E+00	0.00E+00				0.0E+00
Total HAPs								0.98	0.00	0.00	0.00	0	0	27.83	28.80

Methodology

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

Abbreviations

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

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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 Fuel Input Rate =	120	MMBtu/hr									
Natural Gas Usage =	1,036	MMCF/yr									
No. 2 Fuel Oil Usage =	0	gal/yr, and		0.50	% sulfur						
No. 4 Fuel Oil Usage =	0	gal/yr, and		0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and		0.50	% sulfur						
Propane Usage =	0	gal/yr, and		0.20	gr/100 ft3 sulfur						
Butane Usage =	0	gal/yr, and		0.22	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	7,508,571	gal/yr, and		0.45	% sulfur	1.00	% ash	0.100	% chlorine,	0.010	% lead

Unlimited/Uncontrolled Emissions

CO ₂ e Fraction	Emission Factor (units)							Global Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO ₂	120,161.84	22,501.41	24,153.46	24,835.04	12,900.00	14,506.73	22,024.15	Carbon dioxide	CO ₂	1
CH ₄	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	21
N ₂ O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N ₂ O	310

CO ₂ e Fraction	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)
CO ₂	62,255.85	0.00	0.00	0.00	0.00	0.00	82,684.97
CH ₄	1.29	0.00	0.00	0.00	0.00	0.00	3.35
N ₂ O	1.14	0.00	0.00	0.00	0.00	0.00	0.68
Total	62,258.28	0.00	0.00	0.00	0.00	0.00	82,688.99
CO ₂ e Equivalent Emissions (tons/yr)	62,636.32	0.00	0.00	0.00	0.00	0.00	82,964.85

CO₂e for Worst Case Fuel* (tons/yr)
82,964.85

Methodology

Fuel Usage from TSD Appendix A.1, page 1 of 14.

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

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

Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]

Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]

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

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

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

No. 2, No. 4, and Residual (No. 5 or No. 6) Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 7/08), Table 1.3-8

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

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

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

Emission Factor (EF) Conversions:

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

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

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

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

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) + Unlimited Potential to Emit CH₄ of "worst case" fuel (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

PTE = Potential to Emit

CO₂ = Carbon Dioxide

CH₄ = Methane

N₂O = Nitrogen Dioxide

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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	42924	42924	42924	42924
PM10*	6.5	6.5	6.5	9964.5	9964.5	9964.5	9964.5
PM2.5*	1.5	1.5	1.5	2299.5	2299.5	2299.5	2300
SO2**	0.0034	0.011	0.058	5.2	16.9	88.9	88.9
NOx**	0.026	0.055	0.055	39.9	84.3	84.3	84.3
VOC**	0.032	0.032	0.032	49.1	49.1	49.1	49.1
CO***	0.13	0.13	0.13	199.3	199.3	199.3	199.3
Hazardous Air Pollutant							
HCl			2.10E-04			3.22E-01	0.32
Antimony	1.80E-07	1.80E-07	1.80E-07	2.76E-04	2.76E-04	2.76E-04	2.76E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	8.58E-04	8.58E-04	8.58E-04	8.58E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	6.29E-04	6.29E-04	6.29E-04	6.29E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	8.43E-03	8.43E-03	8.43E-03	8.43E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	3.99E-05	3.99E-05	3.99E-05	3.99E-05
Lead	6.20E-07	1.50E-05	1.50E-05	9.50E-04	2.30E-02	2.30E-02	2.30E-02
Manganese	7.70E-06	7.70E-06	7.70E-06	1.18E-02	1.18E-02	1.18E-02	1.18E-02
Mercury	2.40E-07	2.60E-06	2.60E-06	3.68E-04	3.99E-03	3.99E-03	3.99E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	0.10	0.10	0.10	0.10
Selenium	3.50E-07	3.50E-07	3.50E-07	5.37E-04	5.37E-04	5.37E-04	5.37E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.06	0.06	0.06	0.06
Acetaldehyde			1.30E-03			1.99	1.99
Acrolein			2.60E-05			3.99E-02	3.99E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.60	0.60	0.60	0.60
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.37	0.37	0.37	0.37
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	4.75	4.75	4.75	4.75
Hexane	9.20E-04	9.20E-04	9.20E-04	1.41	1.41	1.41	1.41
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.07	0.07	0.07	0.07
MEK			2.00E-05			0.03	0.03
Propionaldehyde			1.30E-04			0.20	0.20
Quinone			1.60E-04			0.25	0.25
Toluene	1.50E-04	2.90E-03	2.90E-03	0.23	4.45	4.45	4.45
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.29	1.35	1.35	1.35
Xylene	2.00E-04	2.00E-04	2.00E-04	0.31	0.31	0.31	0.31

Total HAPs 16.34
Worst Single HAP 4.75 (formaldehyde)

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

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

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

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO2e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO2	33	33	33	1	50,589.00	50,589.00	50,589.00	50,975.32
CH4	0.0120	0.0120	0.0120	21	18.40	18.40	18.40	
N2O				310	0	0	0	
Total					50,607.40	50,607.40	50,607.40	
CO2e Equivalent Emissions (tons/yr)					50,975.32	50,975.32	50,975.32	

Methodology

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

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

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

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

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

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

Maximum Annual Blast Furnace Slag Usage =

306,600

 ton/yr

1.5

 % sulfur
 Maximum Annual Steel Slag Usage =

306,600

 ton/yr

0.66

 % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Unlimited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	0.74	113.4
Steel Slag**	0.0014	0.21

Methodology

The maximum annual slag usage was provided by the source, at maximum 10% of the aggregate mix.

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

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

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

Abbreviations

SO2 = Sulfur Dioxide

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

Company Name: Walsh & Kelly, Inc.
Source Location: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

Maximum Hot Oil Heater Fuel Input Rate = 1.41 MMBtu/hr
 Natural Gas Usage = 12.35 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)		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	0.012	0.000	0.01
PM10/PM2.5	7.6	3.3	0.047	0.000	0.05
SO2	0.6	71.0	0.004	0.000	0.00
NOx	100	20.0	0.618	0.000	0.62
VOC	5.5	0.20	0.034	0.000	0.03
CO	84	5.0	0.519	0.000	0.52
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.2E-06	0.00E+00	1.2E-06
Beryllium	1.2E-05	4.2E-04	7.4E-08	0.00E+00	7.4E-08
Cadmium	1.1E-03	4.2E-04	6.8E-06	0.00E+00	6.8E-06
Chromium	1.4E-03	4.2E-04	8.6E-06	0.00E+00	8.6E-06
Cobalt	8.4E-05		5.2E-07		5.2E-07
Lead	5.0E-04	1.3E-03	3.1E-06	0.00E+00	3.1E-06
Manganese	3.8E-04	8.4E-04	2.3E-06	0.00E+00	2.3E-06
Mercury	2.6E-04	4.2E-04	1.6E-06	0.00E+00	1.6E-06
Nickel	2.1E-03	4.2E-04	1.3E-05	0.00E+00	1.3E-05
Selenium	2.4E-05	2.1E-03	1.5E-07	0.00E+00	1.5E-07
Benzene	2.1E-03		1.3E-05		1.3E-05
Dichlorobenzene	1.2E-03		7.4E-06		7.4E-06
Ethylbenzene					0.0E+00
Formaldehyde	7.5E-02	6.10E-02	4.6E-04	0.00E+00	4.6E-04
Hexane	1.8E+00		1.1E-02		1.1E-02
Phenol					0.0E+00
Toluene	3.4E-03		2.1E-05		2.1E-05
Total PAH Haps	negl		negl		0.0E+00
Polycyclic Organic Matter		3.30E-03		0.00E+00	0.0E+00
Total HAPs =			1.2E-02	0.0E+00	0.012
Worst Single HAP =			1.1E-02	0.0E+00	1.1E-02
			(Hexane)	(Formaldehyde)	(Hexane)

Methodology

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

Maximum Hot Oil Heater Fuel Input Rate =

1.41	MMBtu/hr
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 Natural Gas Usage =

12.35	MMCF/yr
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 No. 2 Fuel Oil Usage =

0.00	gal/yr,
------	---------

0.50	% sulfur
------	----------

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO ₂	120,161.84	22,501.41	1	742.10	0.00
CH ₄	2.49	0.91	21	0.02	0.00
N ₂ O	2.2	0.26	310	0.01	0.00
				742.12	0.00

Worse Case CO₂e Emissions (tons/yr)
746.63

CO₂e Equivalent Emissions (tons/yr)	746.63	0.00
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Methodology

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

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

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

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

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

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

Emission Factor (EF) Conversions

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

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

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

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

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) + Unlimited Potential to Emit CH₄ of "worst case" fuel (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CO₂ = Carbon Dioxide
 CH₄ = Methane

N₂O = Nitrogen Dioxide
 PTE = Potential to Emit

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

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

Maximum Fuel Input Rate To Hot Oil Heater = 1.41 MMBtu/hr
 Natural Gas Usage = 12.35 MMCF/yr, and
 No. 2 Fuel Oil Usage = 0.00 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	
VOC	2.60E-08	2.65E-05	1.61E-04	0.000	0.000
CO	8.90E-06	0.0012	0.055	0.000	0.055
Greenhouse Gas as CO2e*					
CO2	0.20	28.00	1235.16	0.00	1235.16
Hazardous Air Pollutant					
Formaldehyde	2.60E-08	3.50E-06	1.61E-04	0.00E+00	1.61E-04
Acenaphthene		5.30E-07		0.00E+00	0.00E+00
Acenaphthylene		2.00E-07		0.00E+00	0.00E+00
Anthracene		1.80E-07		0.00E+00	0.00E+00
Benzo(b)fluoranthene		1.00E-07		0.00E+00	0.00E+00
Fluoranthene		4.40E-08		0.00E+00	0.00E+00
Fluorene		3.20E-08		0.00E+00	0.00E+00
Naphthalene		1.70E-05		0.00E+00	0.00E+00
Phenanthrene		4.90E-06		0.00E+00	0.00E+00
Pyrene		3.20E-08		0.00E+00	0.00E+00

Total HAPs 1.61E-04
Worst Single HAP 1.61E-04 (Naphthalene)

Methodology

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

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

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

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

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

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

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

Hazardous Air Pollutants (HAPs)

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

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

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

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

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

Green House Gas Emissions (GHG)

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

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

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

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

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

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

Methodology

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

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

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

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

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

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

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

Output Horsepower Rating (hp)	0.0	Sulfur Content (S) of Fuel (% by weight)	0.50
Maximum Hours Operated per Year	8760		
Potential Throughput (hp-hr/yr)	0		
Maximum Diesel Fuel Usage (gal/yr)	0		

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

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

²Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 17,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

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

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

Hazardous Air Pollutants (HAPs)

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

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

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

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

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

Green House Gas Emissions (GHG)

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

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

⁶Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 17,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

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

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

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

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

Methodology

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

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

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

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

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

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

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) +

N2O Potential Emission ton/yr x N2O GWP (310).

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

**Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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 =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	3,066,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.80	0.90	NA	1.70
Organic PM	3.4E-04	2.5E-04	NA	0.52	0.389	NA	0.91
TOC	0.004	0.012	0.001	6.38	18.68	1.686	26.7
CO	0.001	0.001	3.5E-04	2.07	1.809	0.540	4.42

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

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

Total VOCs	5.99	18.68	1.6	26.3
Total HAPs	0.13	0.28	0.025	0.44
	Worst Single HAP			0.136
				(formaldehyde)

Methodology

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Abbreviations

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 1700 East Main Street, Griffith, Indiana 46319
 Permit Number: 089-31548-03215
 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
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	1.4E-03	1.8E-03	NA	3.2E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	1.5E-04	5.4E-05	NA	2.0E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	3.7E-04	5.1E-04	NA	8.7E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	9.9E-05	2.2E-04	NA	3.2E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	4.0E-05	0	NA	4.0E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	1.1E-05	0	NA	1.1E-05
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	9.9E-06	0	NA	9.9E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	1.2E-05	0	NA	1.2E-05
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	4.1E-05	3.7E-05	NA	7.8E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	5.4E-04	8.2E-04	NA	1.4E-03
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	1.9E-06	0	NA	1.9E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	2.6E-04		NA	2.6E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	4.0E-03	3.9E-03	NA	8.0E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	2.5E-06	0	NA	2.5E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	1.2E-02	2.1E-02	NA	0.033
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	6.5E-03	7.1E-03	NA	1.4E-02
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	1.1E-04	1.2E-04	NA	2.3E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	4.2E-03	7.0E-03	NA	1.1E-02
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	7.8E-04	1.7E-03	NA	2.5E-03
Total PAH HAPs							0.031	0.044	NA	0.075
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	6.2E-03	0	0	6.2E-03

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

Methodology

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

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

Abbreviations

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	5.99	18.68	1.59	26.26
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	4.1E-01	4.9E-02	1.1E-01	0.573
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	2.9E-03	1.0E-02	7.8E-04	0.014
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	4.5E-02	2.1E-01	1.2E-02	0.263
Total non-VOC/non-HAPS					7.30%	1.40%	0.465	0.262	0.123	0.85
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	3.3E-03	6.0E-03	8.8E-04	1.0E-02
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	6.1E-04	9.2E-04	1.6E-04	1.7E-03
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	3.1E-03	7.3E-03	8.3E-04	1.1E-02
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	8.3E-04	3.0E-03	2.2E-04	4.0E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	1.3E-05	7.5E-04	3.5E-06	7.6E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	9.6E-04	4.3E-03	2.5E-04	5.5E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	7.0E-03	0	1.9E-03	8.9E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	1.8E-02	7.1E-03	4.7E-03	0.030
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	5.6E-03	1.3E-01	1.5E-03	0.136
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	9.6E-03	1.9E-02	2.5E-03	0.031
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	1.1E-04	5.8E-05	3.0E-05	2.0E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	5.0E-05	0	5.0E-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%	4.7E-04	1.0E-03	1.2E-04	1.6E-03
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	4.9E-04	0	1.3E-04	6.2E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	1.3E-02	1.2E-02	3.5E-03	0.029
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	8.3E-05	0	2.2E-05	1.0E-04
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	2.6E-02	3.7E-02	6.9E-03	0.070
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	5.1E-03	1.1E-02	1.3E-03	1.7E-02
Total volatile organic HAPs					1.50%	1.30%	0.096	0.243	0.025	0.364

Methodology

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

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

Abbreviations

TOC = Total Organic Compounds

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

MTBE = Methyl tert butyl ether

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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 = days of rain greater than or equal to 0.01 inches
 f = % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	1.0	1.16	0.13	0.027	0.010
Limestone	0.5	0.58	1.64	0.173	0.061
RAP	0.5	0.58	0.10	0.011	0.004
Gravel	1.6	1.85	0.00	0.000	0.000
Shingles	0.5	0.58	0.25	0.026	0.009
Slag	0.5	0.58	0.50	0.053	0.018
Totals				0.29	0.10

Methodology

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

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

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

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

PM2.5 = PM10

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

RAP = Recycled Asphalt Pavement

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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.

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

where: E_f = Emission factor (lb/ton)

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

Maximum Annual Asphalt Production =	3,066,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	2,912,700	tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	3.30	1.56	0.24
Front-end loader dumping of materials into feeder bins	3.30	1.56	0.24
Conveyor dropping material into dryer/mixer or batch tower	3.30	1.56	0.24
Total (tons/yr)	9.90	4.68	0.71

Methodology

The percent asphalt cement/binder provided by the source.
Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives
*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 11.19.2)

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	7.86	3.50
Screening	0.025	0.0087	36.41	12.67
Conveying	0.003	0.0011	4.37	1.60
Unlimited Potential to Emit (tons/yr) =			48.64	17.77

Methodology

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Unlimited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]
Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)
Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2
*Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).
**Assumes PM10 = PM2.5

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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	3,066,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	2,912,700	tons/yr
Maximum Asphalt Cement/Binder Throughput	153,300	tons/yr
Maximum No. 2 Fuel Oil Usage	0	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	1.3E+05	5.1E+06	300	0.057	7388.1
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	1.3E+05	2.2E+06	300	0.057	7388.1
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	4.3E+03	2.0E+05	300	0.057	242.0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	4.3E+03	5.1E+04	300	0.057	242.0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	0.0E+00	0.0E+00	300	0.057	0.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	0.0E+00	0.0E+00	300	0.057	0.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	6.9E+05	1.3E+07	300	0.057	39403.4
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	6.9E+05	1.0E+07	300	0.057	39403.4
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.3E+05	5.2E+06	300	0.057	7258.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.3E+05	2.2E+06	300	0.057	7258.5
Total					1.9E+06	3.9E+07			1.1E+05

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

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

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

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	22.51	5.74	0.57	14.80	3.77	0.38	7.40	1.89	0.19
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	22.51	5.74	0.57	14.80	3.77	0.38	7.40	1.89	0.19
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.737	0.188	0.02	0.485	0.124	0.01	0.242	0.062	0.01
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.737	0.188	0.02	0.485	0.124	0.01	0.242	0.062	0.01
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	120.06	30.60	3.06	78.95	20.12	2.01	39.47	10.06	1.01
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	120.06	30.60	3.06	78.95	20.12	2.01	39.47	10.06	1.01
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	22.12	5.64	0.56	14.54	3.71	0.37	7.27	1.85	0.19
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	22.12	5.64	0.56	14.54	3.71	0.37	7.27	1.85	0.19
Totals		330.86	84.32	8.43	217.55	55.45	5.54	108.78	27.72	2.77

Methodology

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

There are no Paved Roads at Industrial Site

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

Maximum Annual Asphalt Production	3,066,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	2,912,700	tons/yr
Maximum Asphalt Cement/Binder Throughput	153,300	tons/yr
Maximum No. 2 Fuel Oil Usage	0	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.0	0.0	0.00	0.0E+00	0.0E+00	300	0.057	0.0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.0	0	0.00	0.0E+00	0.0E+00	300	0.057	0.0
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.0	0.0	0.00	0.0E+00	0.0E+00	300	0.057	0.0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.0	0	0.00	0.0E+00	0.0E+00	300	0.057	0.0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.0	0.0	0.00	0.0E+00	0.0E+00	300	0.057	0.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.0	0	0.00	0.0E+00	0.0E+00	300	0.057	0.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.0	0.0	0.00	0.0E+00	0.0E+00	300	0.057	0.0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.0	0	0.00	0.0E+00	0.0E+00	300	0.057	0.0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.0	0.0	0.00	0.0E+00	0.0E+00	300	0.057	0.0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.0	0	0.00	0.0E+00	0.0E+00	300	0.057	0.0
Total					0.0E+00	0.0E+00	300	0.057	0.0E+00

Average Vehicle Weight Per Trip = $\frac{\#DIV/0!}{\#DIV/0!}$ tons/trip
 Average Miles Per Trip = $\frac{\#DIV/0!}{\#DIV/0!}$ miles/trip

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

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	#DIV/0!	#DIV/0!	#DIV/0!	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ³ = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f =	0.00	0.00	0.00	lb/mile
Mitigated Emission Factor, E_{ext} =	0.00	0.00	0.00	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.0E+00	0.0E+00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.0E+00	0.0E+00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Methodology

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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 =	3,066,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Asphalt Cement/Binder Throughput =	153,300	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%	95.0%	0.0	0.0
Cut back asphalt medium cure (assuming kerosene solvent)	0.0%	70.0%	0.0	0.0
Cut back asphalt slow cure (assuming fuel oil solvent)	22.0%	25.0%	33,726.0	8,431.5
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	22,995.0	10,669.7
Other asphalt with solvent binder	0.0%	2.5%	0.0	0.0
Worst Case PTE of VOC =				10,669.7

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	0.68%
Worst Case Single HAP Content of VOC solvent (weight %)* =	0.68% Xylenes
PTE of Total HAPs (tons/yr) =	72.55
PTE of Single HAP (tons/yr) =	72.55 Xylenes

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

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

Methodology

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

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

Abbreviations

VOC = Volatile Organic Compounds
 PTE = Potential to Emit

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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:

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

Volatile Organic Compounds

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

Hazardous Air Pollutants

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

Methodology

The gasoline throughput was provided by the source.

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

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

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

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

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

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 1700 East Main Street, Griffith, Indiana 46319
 Permit Number: 089-31548-03215
 Reviewer: Jack Harmon

Asphalt Plant Limitations - Drum Mix

Maximum Hourly Asphalt Production	350	ton/hr									
Annual Asphalt Production Limitation	830,250	ton/yr									
Blast Furnace Slag Usage Limitation	100,000	ton/yr	1.50	% sulfur							
Steel Slag Usage Limitation	100,000		0.66	% sulfur							
Maximum Dryer Fuel Input Rate	120	MMBtu/hr									
Natural Gas Limitation	1,035.60	MMCF/yr									
No. 2 Fuel Oil Limitation	0	gal/yr, and	0.50	% sulfur							
No. 4 Fuel Oil Limitation	0	gal/yr, and	0.50	% sulfur							
Residual (No. 5 or No. 6) Fuel Oil Limitation	0	gal/yr, and	0.50	% sulfur							
Propane Limitation	0	gal/yr, and	0.20	gr/100 ft3 sulfur							
Butane Limitation	0	gal/yr, and	0.22	gr/100 ft3 sulfur							
Used/Waste Oil Limitation**	740,725	gal/yr, and	0.45	% sulfur**	1.00	% ash	0.100	% chlorine,	0.010	% lead	
Diesel Fuel Limitation - Generator < 600 HP	0	gal/yr, and									
Diesel Fuel Limitation - Generator > 600 HP	0	gal/yr	0.50	% sulfur							
PM Dryer/Mixer Limitation	0.489	lb/ton of asphalt production									
PM10 Dryer/Mixer Limitation	0.204	lb/ton of asphalt production									
PM2.5 Dryer/Mixer Limitation	0.223	lb/ton of asphalt production									
CO Dryer/Mixer Limitation	0.130	lb/ton of asphalt production									
VOC Dryer/Mixer Limitation	0.032	lb/ton of asphalt production									
Blast Furnace Slag SO2 Dryer/Mixer Limitation	0.740	lb/ton of slag processed									
Steel Slag SO2 Dryer/Mixer Limitation	0.0014	lb/ton of slag processed									
Cold Mix Asphalt VOC Limitation	4.5	tons/yr									
HCl Limitation	6.6	lb/kgal									

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants						Greenhouse Gas Pollutants	Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2**	NOx	VOC	CO	CO2e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	23.70	18.89	18.89	24.50	98.38	2.85	43.50	62,600.32	3.72	2.44 (hydrogen chloride)
Dryer/Mixer (Process)	202.93	84.80	92.64	24.08	22.83	13.28	53.97	13,804	4.42	1.29 (formaldehyde)
Dryer/Mixer Slag Processing	0.00	0.00	0.00	37.00	0.00	0.00	0.00	0.00	0.00	0.00
Hot Oil Heater Fuel Combustion/Process (worst case)	0.01	0.05	0.05	0.00	0.62	0.03	0.52	1,235.16	0.01	0.011 (hexane)
Diesel-Fired Generator < 600 HF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000 (formaldehyde)
Diesel-Fired Generator > 600 HF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000 (benzene)
Worst Case Emissions*	202.94	84.85	92.68	61.50	99.00	13.32	54.49	63,835.48	4.44	2.44 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.46	0.46	0.46	0.00	0.00	7.11	1.20	0.00	0.12	0.04 (formaldehyde)
Material Storage Piles	0.29	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material Processing and Handling	2.68	1.27	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material Crushing, Screening, and Conveying	13.17	4.81	4.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved and Paved Roads (worst case)	29.46	7.51	0.75	0.00	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	4.47	0.00	0.00	1.17	0.40 (xylenes)
Gasoline Fuel Transfer and Dispensing	0.00	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	0.00	negl	negl
Total Fugitive Emissions	46.06	14.15	6.32	0.00	0.00	11.58	1.20	0.00	1.29	0.40 (xylenes)
Totals Limited/Controlled Emissions	249.00	99.00	99.00	61.50	99.00	24.90	55.68	63,835.48	5.72	2.44 (xylenes)

negl = negligible

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

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

Fuel component percentages provided by the source.

** This dryer/mixer for this source has specific limitations under 326 IAC 7-4.1-21 of 740,725 gallons per year of waste oil and waste oil equivalents, 0.45% sulfur content of waste oil by weight, and less than 25 tons per year SO2 emissions from the dryer.

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 1700 East Main Street, Griffith, Indiana 46319
 Permit Number: 089-31548-03215
 Reviewer: Jack Harmon

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

Fuel Limitations

Maximum Fuel Input Rate =	120	MMBtu/hr
Natural Gas Limitation =	1,036	MMCF/yr
No. 2 Fuel Oil Limitation =	0	gal/yr, and
No. 4 Fuel Oil Limitation =	0	gal/yr, and
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and
Propane Limitation =	0	gal/yr, and
Butane Limitation =	0	gal/yr, and
Used/Waste Oil Limitation** =	740,725	gal/yr, and
	0.50	% sulfur
	0.50	% sulfur
	0.50	% sulfur
	0.20	gr/100 ft3 sulfur
	0.22	gr/100 ft3 sulfur
	0.45	% sulfur**
	1.00	% ash
	0.100	% chlorine
	0.010	% lead

Limited Emissions

Criteria Pollutant	Emission Factor (units)							Limited Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2	7	7.815	0.5	0.6	64	0.98	0.00	0.00	0.00	0.000	0.000	23.70	23.70
PM10/PM2.5	7.6	3.3	8.3	9.315	0.5	0.6	51	3.94	0.00	0.00	0.00	0.000	0.000	18.89	18.89
SO2**	0.6	71.0	75.0	78.5	0.020	0.020	66.2	0.31	0.00	0.00	0.00	0.000	0.000	24.50	24.50
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	98.38	0.00	0.00	0.00	0.00	0.00	7.04	98.38
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.85	0.00	0.00	0.00	0.00	0.00	0.37	2.85
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	43.50	0.00	0.00	0.00	0.00	0.00	1.85	43.50
Hazardous Air Pollutant															
HCl							6.6							2.44	2.44
Antimony			5.25E-03	5.25E-03			negl			0.00E+00	0.00E+00			negl	0.0E+00
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	1.0E-04	0.00E+00	0.00E+00	0.00E+00			4.07E-02	4.1E-02
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	6.2E-06	0.00E+00	0.00E+00	0.00E+00			negl	6.2E-06
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	5.7E-04	0.00E+00	0.00E+00	0.00E+00			3.44E-03	3.4E-03
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	7.2E-04	0.00E+00	0.00E+00	0.00E+00			7.41E-03	7.4E-03
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	4.3E-05	0.00E+00	0.00E+00	0.00E+00			7.78E-05	7.8E-05
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.6E-04	0.00E+00	0.00E+00	0.00E+00			2.0E-01	0.20
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	2.0E-04	0.00E+00	0.00E+00	0.00E+00			2.52E-02	0.03
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.3E-04	0.00E+00	0.00E+00	0.00E+00				1.3E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	1.1E-03	0.00E+00	0.00E+00	0.00E+00			4.07E-03	0.004
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04				1.2E-05	0.00E+00	0.00E+00	0.00E+00			negl	1.2E-05
1,1,1-Trichloroethane			2.36E-04	2.36E-04						0.00E+00	0.00E+00				0.0E+00
1,3-Butadiene															0.0E+00
Acetaldehyde															0.0E+00
Acrolein															0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				1.1E-03		0.00E+00	0.00E+00				1.1E-03
Bis(2-ethylhexyl)phthalate							2.2E-03							8.15E-04	8.1E-04
Dichlorobenzene	1.2E-03						8.0E-07	6.2E-04						2.96E-07	6.2E-04
Ethylbenzene			6.36E-05	6.36E-05						0.00E+00	0.00E+00				0.0E+00
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.9E-02	0.00E+00	0.00E+00	0.00E+00				0.039
Hexane	1.8E+00							0.93							0.932
Phenol							2.4E-03							8.89E-04	8.9E-04
Toluene	3.4E-03		6.20E-03	6.20E-03				1.8E-03		0.00E+00	0.00E+00				1.8E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0.00E+00	0.00E+00			1.45E-02	1.4E-02
Polycyclic Organic Matter		3.30E-03							0.00E+00						0.0E+00
Xylene			1.09E-04	1.09E-04						0.00E+00	0.00E+00				0.0E+00
Total HAPs								0.98	0.00	0.00	0.00	0	0	2.75	3.72

Methodology

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
 Sources of AP-42 Emission Factors for fuel combustion:

- Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
- No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
- Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
- Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

*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.
 ** This dryer/mixer for this source has specific limitations under 326 IAC 2-7.4-21 of 740,725 gallons per year of waste oil, 0.45% sulfur content of waste oil by weight, and less than 25 tons per year SO2 emissions from the dryer.

Abbreviations

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

**Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr**

**Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon**

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

Fuel Limitations

Maximum Fuel Input Rate =	120	MMBtu/hr									
Natural Gas Limitation =	1,036	MMCF/yr									
No. 2 Fuel Oil Limitation =	0	gal/yr, and		0.50	% sulfur						
No. 4 Fuel Oil Limitation =	0	gal/yr, and		0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and		0.50	% sulfur						
Propane Limitation =	0	gal/yr, and		0.20	gr/100 ft ³ sulfur						
Butane Limitation =	0	gal/yr, and		0.22	gr/100 ft ³ sulfur						
Used/Waste Oil Limitation =	740,725	gal/yr, and		0.45	% sulfur	1.00	% ash	0.100	% chlorine,	0.010	% lead

Limited Emissions

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

CO ₂ e Fraction	Limited Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO ₂	62,220.07	0.00	0.00	0.00	0.00	0.00	8,156.92
CH ₄	1.29	0.00	0.00	0.00	0.00	0.00	0.33
N ₂ O	1.14	0.00	0.00	0.00	0.00	0.00	0.07
Total	62,222.50	0.00	0.00	0.00	0.00	0.00	8,157.32
CO ₂ e Equivalent Emissions (tons/yr)	62,600.32	0.00	0.00	0.00	0.00	0.00	8,184.53

CO₂e for Worst Case Fuel* (tons/yr)
62,600.32

Methodology

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

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

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

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

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

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

Emission Factor (EF) Conversions

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

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

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

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

Limited CO₂e Emissions (tons/yr) = CO₂ Potential Emission of "worst case" fuel (ton/yr) x CO₂ GWP (1) + CH₄ Potential Emission of "worst case" fuel (ton/yr) x CH₄ GWP (21) + N₂O Potential Emission of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CH₄ = Methane

CO₂ = Carbon Dioxide

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

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

Maximum Hourly Asphalt Production =	350	ton/hr
Annual Asphalt Production Limitation =	830,250	ton/yr
PM Dryer/Mixer Limitation =	0.489	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.204	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.223	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	0.489	0.489	0.489	202.9	202.9	202.9	202.9
PM10*	0.204	0.204	0.204	84.8	84.8	84.8	84.8
PM2.5*	0.223	0.223	0.223	92.6	92.6	92.6	92.6
SO2**	0.003	0.011	0.058	1.4	4.6	24.1	24.1
NOx**	0.026	0.055	0.055	10.8	22.8	22.8	22.8
VOC**	0.032	0.032	0.032	13.3	13.3	13.3	13.3
CO***	0.130	0.130	0.130	54.0	54.0	54.0	54.0
Hazardous Air Pollutant							
HCl			2.10E-04			0.09	0.09
Antimony	1.80E-07	1.80E-07	1.80E-07	7.47E-05	7.47E-05	7.47E-05	7.47E-05
Arsenic	5.60E-07	5.60E-07	5.60E-07	2.32E-04	2.32E-04	2.32E-04	2.32E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	1.70E-04	1.70E-04	1.70E-04	1.70E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	2.28E-03	2.28E-03	2.28E-03	2.28E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.08E-05	1.08E-05	1.08E-05	1.08E-05
Lead	6.20E-07	1.50E-05	1.50E-05	2.57E-04	6.23E-03	6.23E-03	6.23E-03
Manganese	7.70E-06	7.70E-06	7.70E-06	3.20E-03	3.20E-03	3.20E-03	3.20E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	9.96E-05	1.08E-03	1.08E-03	1.08E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	2.62E-02	2.62E-02	2.62E-02	2.62E-02
Selenium	3.50E-07	3.50E-07	3.50E-07	1.45E-04	1.45E-04	1.45E-04	1.45E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	1.66E-02	1.66E-02	1.66E-02	1.66E-02
Acetaldehyde			1.30E-03			0.54	0.54
Acrolein			2.60E-05			1.08E-02	1.08E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.16	0.16	0.16	0.16
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.10	0.10	0.10	0.10
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	1.29	1.29	1.29	1.29
Hexane	9.20E-04	9.20E-04	9.20E-04	0.38	0.38	0.38	0.38
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.02	0.02	0.02	0.02
MEK			2.00E-05			0.01	0.01
Propionaldehyde			1.30E-04			0.05	0.05
Quinone			1.60E-04			0.07	0.07
Toluene	1.50E-04	2.90E-03	2.90E-03	0.06	1.20	1.20	1.20
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.08	0.37	0.37	0.37
Xylene	2.00E-04	2.00E-04	2.00E-04	0.08	0.08	0.08	0.08
Total HAPs							4.42
Worst Single HAP							1.2868875 (formaldehyde)

Methodology

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

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

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

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

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

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

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

Maximum Hourly Asphalt Production = 350 ton/hr
 Annual Asphalt Production Limitation = 830,250 ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Global Warming Potentials (GWP)	Limited Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO2e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO2	33	33	33	1	13,699.13	13,699.13	13,699.13	13,803.74
CH4	0.0120	0.0120	0.0120	21	4.98	4.98	4.98	
N2O				310	0	0	0	
Total					13,704.11	13,704.11	13,704.11	
CO2e Equivalent Emissions (tons/yr)					13,803.74	13,803.74	13,803.74	

Methodology

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

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

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

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

Limited CO2e Emissions (tons/yr) = CO2 Potential Emission of "worst case" fuel (ton/yr) x CO2 GWP (1) + CH4 Potential Emission of "worst case" fuel (ton/yr) x CH4 GWP (21) + N2O Potential Emission of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

CO2 = Carbon Dioxide

CH4 = Methane

N2O = Nitrogen Dioxide

PTE = Potential to Emit

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

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

Limited Blast Furnace Slag Usage = $\frac{100,000}{100,000}$ ton/yr $\frac{1.50}{0.66}$ % sulfur
 Limited Annual Steel Slag Usage = $\frac{100,000}{100,000}$ ton/yr $\frac{1.50}{0.66}$ % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Limited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	0.7400	37.0
Steel Slag**	0.0014	0.07

Methodology

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

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

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

Abbreviations

SO2 = Sulfur Dioxide

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

Company Name: Walsh & Kelly, Inc.
Source Location: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

Maximum Hot Oil Heater Fuel Input Rate = 1.41 MMBtu/hr
 Natural Gas Usage = 12.35 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)		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	0.012	0.000	0.01
PM10/PM2.5	7.6	3.3	0.047	0.000	0.05
SO2	0.6	71.0	0.004	0.000	0.00
NOx	100	20.0	0.618	0.000	0.62
VOC	5.5	0.20	0.034	0.000	0.03
CO	84	5.0	0.519	0.000	0.52
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.2E-06	0.00E+00	1.2E-06
Beryllium	1.2E-05	4.2E-04	7.4E-08	0.00E+00	7.4E-08
Cadmium	1.1E-03	4.2E-04	6.8E-06	0.00E+00	6.8E-06
Chromium	1.4E-03	4.2E-04	8.6E-06	0.00E+00	8.6E-06
Cobalt	8.4E-05		5.2E-07		5.2E-07
Lead	5.0E-04	1.3E-03	3.1E-06	0.00E+00	3.1E-06
Manganese	3.8E-04	8.4E-04	2.3E-06	0.00E+00	2.3E-06
Mercury	2.6E-04	4.2E-04	1.6E-06	0.00E+00	1.6E-06
Nickel	2.1E-03	4.2E-04	1.3E-05	0.00E+00	1.3E-05
Selenium	2.4E-05	2.1E-03	1.5E-07	0.00E+00	1.5E-07
Benzene	2.1E-03		1.3E-05		1.3E-05
Dichlorobenzene	1.2E-03		7.4E-06		7.4E-06
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	4.6E-04	0.00E+00	0.000
Hexane	1.8E+00		0.01		0.011
Phenol					0
Toluene	3.4E-03		2.1E-05		2.1E-05
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		0.00E+00	0.0E+00

Total HAPs = 1.2E-02 0.0E+00 0.012
Worst Single HAP = 1.1E-02 0.0E+00 1.1E-02
(Hexane) (Formaldehyde) (Hexane)

Methodology

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

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

Maximum Hot Oil Heater Fuel Input Rate = 1.41 MMBtu/hr
 Natural Gas Usage = 12.35 MMCF/yr
 No. 2 Fuel Oil Usage = 0.00 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO ₂	120,161.84	22,501.41	1	742.10	0.00
CH ₄	2.49	0.91	21	0.015	0.00E+00
N ₂ O	2.20	0.26	310	0.014	0.00E+00
Total				742.12	0.00

Worse Case CO₂e Emissions (tons/yr)
746.63

CO ₂ e Equivalent Emissions (tons/yr)	746.63	0.00
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Methodology

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

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

Natural Gas : Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from

No. 2 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from

Emission Factor (EF) Conversions

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

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

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

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

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

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

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) + Unlimited Potential to Emit CH₄ of "worst case" fuel (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CH₄ = Methane

N₂O = Nitrogen Dioxide

CO₂ = Carbon Dioxide

PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Hot Oil Heating System - Process Emissions

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

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

Maximum Fuel Input Rate To Hot Oil Heater = 1.41 MMBtu/hr
 Natural Gas Usage = 12.35 MMCF/yr, and
 No. 2 Fuel Oil Usage = 0.00 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	
VOC	2.60E-08	2.65E-05	1.61E-04	0.000	0.000
CO	8.90E-06	0.0012	0.055	0.000	0.055
Greenhouse Gas as CO2e*					
CO2	0.20	28.00	1235.16	0.00	1,235.16
Hazardous Air Pollutant					
Formaldehyde	2.60E-08	3.50E-06	1.61E-04	0.00E+00	1.61E-04
Acenaphthene		5.30E-07		0.00E+00	0.00E+00
Acenaphthylene		2.00E-07		0.00E+00	0.00E+00
Anthracene		1.80E-07		0.00E+00	0.00E+00
Benzo(b)fluoranthene		1.00E-07		0.00E+00	0.00E+00
Fluoranthene		4.40E-08		0.00E+00	0.00E+00
Fluorene		3.20E-08		0.00E+00	0.00E+00
Naphthalene		1.70E-05		0.00E+00	0.00E+00
Phenanthrene		4.90E-06		0.00E+00	0.00E+00
Pyrene		3.20E-08		0.00E+00	0.00E+00

Total HAPs 1.61E-04
Worst Single HAP 1.61E-04 (Naphthalene)

Methodology

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

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

Instructions and Notes (in red text) - Delete the instruction and notes when finished

Note: do not use 2546 Btu/hp-hr or 3415 Btu/KW-hr conversion factors, since fuel heat input rate does not equal engine output (i.e., engines are not 100% efficient)

Use a conversion factor of 7,000 Btu/hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake specific fuel consumption (BSFC) (AP-42, Table 3.3-1)

Output Horsepower Rating (hp)	0.0	<i>If the source does not have a generator enter a value of 0, do not delete.</i>
Limited Hours Operated per Year	2500	<i>The source will have to provide the limited hours of operation per year.</i>
Limited Throughput (hp-hr/yr)	0	
Limited Diesel Fuel Usage (gal/yr)	0	

	Pollutant						
	PM ²	PM10 ²	direct PM2.5 ²	SO ₂	NO _x	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Emission Factor in lb/kgal ¹	43.07	43.07	43.07	40.13	606.85	49.22	130.77
Limited Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

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

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

Hazardous Air Pollutants (HAPs)

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

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

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

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

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

Green House Gas Emissions (GHG)

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

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

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

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

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

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

Methodology

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

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

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

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

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

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

CO₂e (tons/yr) = CO₂ Potential Emission ton/yr x CO₂ GWP (1) + CH₄ Potential Emission ton/yr x CH₄ GWP (21) + N₂O Potential Emission ton/yr x N₂O GWP (310).

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

Instructions and Notes (in red text) - Delete the instruction and notes when finished

Note: do not use 2546 Btu/hp-hr or 3415 Btu/KW-hr conversion factors, since fuel heat input rate does not equal engine output (i.e., engines are not 100% efficient)
Use a conversion factor of 7,000 Btu/hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake specific fuel consumption (BSFC) (AP-42, Table 3.3-1)

Output Horsepower Rating (hp)	0.0	<i>If the source does not have a generator enter a value of 0, do not delete.</i>	
Limited Hours Operated per Year	2500		
Limited Throughput (hp-hr/yr)	0	<i>The source will have to provide the limited hours of operation per year.</i>	
Limited Diesel Fuel Usage (gal/yr)	0		
		Sulfur Content (S) of Fuel (% by weight)	0.50

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

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

² Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

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

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

Hazardous Air Pollutants (HAPs)

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

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

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

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

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

Green House Gas Emissions (GHG)

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

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

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

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

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

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

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

Methodology

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

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

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

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

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

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

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O

Potential Emission ton/yr x N2O GWP (310).

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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 =	325	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	830,250	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.22	0.24	NA	0.46
Organic PM	3.4E-04	2.5E-04	NA	0.14	0.105	NA	0.25
TOC	0.004	0.012	0.001	1.73	5.06	0.457	7.2
CO	0.001	0.001	3.5E-04	0.56	0.490	0.146	1.20

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

PM/HAPs	0.010	0.012	0	0.022
VOC/HAPs	0.026	0.064	0.007	0.097
non-VOC/HAPs	1.3E-04	1.4E-05	3.5E-05	1.8E-04
non-VOC/non-HAPs	0.13	0.07	0.03	0.23

Total VOCs	1.62	5.06	0.4	7.1
Total HAPs	0.04	0.08	0.007	0.12
		Worst Single HAP		0.037
				(formaldehyde)

Methodology

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Abbreviations

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate

Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

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

Company Name: Walsh & Kelly, Inc.
 Source Address: 1700 East Main Street, Griffith, Indiana 46319
 Permit Number: 089-31548-03215
 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
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	3.7E-04	5.0E-04	NA	8.6E-04
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	4.0E-05	1.5E-05	NA	5.4E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	9.9E-05	1.4E-04	NA	2.4E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	2.7E-05	5.9E-05	NA	8.6E-05
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.1E-05	0	NA	1.1E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	3.1E-06	0	NA	3.1E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	2.7E-06	0	NA	2.7E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	3.3E-06	0	NA	3.3E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.1E-05	1.0E-05	NA	2.1E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	1.5E-04	2.2E-04	NA	3.7E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	5.2E-07	0	NA	5.2E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	7.1E-05	1.6E-04	NA	2.3E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.1E-03	1.1E-03	NA	2.2E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	6.7E-07	0	NA	6.7E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	3.4E-03	5.6E-03	NA	0.009
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	1.8E-03	1.9E-03	NA	3.7E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	3.1E-05	3.2E-05	NA	6.3E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.1E-03	1.9E-03	NA	3.0E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	2.1E-04	4.6E-04	NA	6.8E-04
Total PAH HAPs							0.008	0.012	NA	0.020
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	1.7E-03	0	0	1.7E-03

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

Methodology

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

Abbreviations

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

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

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	1.62	5.06	0.43	7.11
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.1E-01	1.3E-02	3.0E-02	0.155
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	7.9E-04	2.8E-03	2.1E-04	0.004
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.2E-02	5.6E-02	3.2E-03	0.071
Total non-VOC/non-HAPS					7.30%	1.40%	0.126	0.071	0.033	0.23
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	9.0E-04	1.6E-03	2.4E-04	2.8E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	1.7E-04	2.5E-04	4.4E-05	4.6E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	8.5E-04	2.0E-03	2.2E-04	3.0E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	2.2E-04	8.1E-04	5.9E-05	1.1E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	3.6E-06	2.0E-04	9.6E-07	2.1E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	2.6E-04	1.2E-03	6.8E-05	1.5E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	1.9E-03	0	5.0E-04	2.4E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	4.8E-03	1.9E-03	1.3E-03	0.008
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	1.5E-03	3.5E-02	4.0E-04	0.037
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	2.6E-03	5.1E-03	6.8E-04	0.008
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	3.1E-05	1.6E-05	8.2E-06	5.5E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	1.4E-05	0	1.4E-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%	1.3E-04	2.7E-04	3.3E-05	4.3E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	1.3E-04	0	3.5E-05	1.7E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	3.6E-03	3.1E-03	9.6E-04	0.008
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	2.2E-05	0	5.9E-06	2.8E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	7.1E-03	1.0E-02	1.9E-03	0.019
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	1.4E-03	2.9E-03	3.7E-04	4.6E-03
Total volatile organic HAPs					1.50%	1.30%	0.026	0.066	0.007	0.099

Methodology

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

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

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

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

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

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

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	1	1.16	0.13	0.027	0.010
Limestone	0.5	0.58	1.64	0.173	0.061
RAP	0.5	0.58	0.10	0.011	0.004
Gravel	1.6	1.85	0.00	0.000	0.000
Shingles	0.5	0.58	0.25	0.026	0.009
Slag	0.5	0.58	0.5	0.053	0.018
Totals				0.29	0.10

Methodology

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

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

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

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

PM2.5 = PM10

Abbreviations

RAP = recycled asphalt pavement

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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 <=100 um)
k (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U =	10.2	= worst case annual mean wind speed (Source: NOAA, 2006*)
M =	4.0	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
E_f (PM) =	2.27E-03	lb PM/ton of material handled
E_f (PM10) =	1.07E-03	lb PM10/ton of material handled
E_f (PM2.5) =	1.62E-04	lb PM2.5/ton of material handled

Annual Asphalt Production Limitation =	830,250	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	788,738	tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	0.89	0.42	0.06
Front-end loader dumping of materials into feeder bins	0.89	0.42	0.06
Conveyor dropping material into dryer/mixer or batch tower	0.89	0.42	0.06
Total (tons/yr)	2.68	1.27	0.19

Methodology

The percent asphalt cement/binder provided by the source.
 Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
 Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives
 *Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 19.2.2)

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

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	2.13	0.95
Screening	0.025	0.0087	9.86	3.43
Conveying	0.003	0.0011	1.18	0.43
Limited Potential to Emit (tons/yr) =			13.17	4.81

Methodology

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Limited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]
 Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)
 Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2
 *Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).
 **Assumes PM10 = PM2.5

Abbreviations

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

**Appendix A.2: Limited Emissions Summary
Unpaved Roads**

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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	830,250	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	788,738	tons/yr
Maximum Asphalt Cement/Binder Throughput	41,513	tons/yr
No. 2 Fuel Oil Limitation	0	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	3.5E+04	1.4E+06	300	0.057	2000.7
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	3.5E+04	6.0E+05	300	0.057	2000.7
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.2E+03	5.5E+04	300	0.057	65.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.2E+03	1.4E+04	300	0.057	65.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	0.0E+00	0.0E+00	300	0.057	0.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	0.0E+00	0.0E+00	300	0.057	0.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	1.9E+05	3.6E+06	300	0.057	10670.2
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	1.9E+05	2.8E+06	300	0.057	10670.2
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	3.5E+04	1.4E+06	300	0.057	1965.6
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	3.5E+04	5.9E+05	300	0.057	1965.6
Total					5.2E+05	1.0E+07			2.9E+04

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

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

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

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

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

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

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	6.10	1.55	0.16	4.01	1.02	0.10	2.00	0.51	0.05
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	6.10	1.55	0.16	4.01	1.02	0.10	2.00	0.51	0.05
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.200	0.051	0.01	0.131	0.033	3.3E-03	0.066	0.017	1.7E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.200	0.051	0.01	0.131	0.033	3.3E-03	0.066	0.017	1.7E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	32.51	8.29	0.83	21.38	5.45	0.54	10.69	2.72	0.27
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	32.51	8.29	0.83	21.38	5.45	0.54	10.69	2.72	0.27
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	5.99	1.53	0.15	3.94	1.00	0.10	1.97	0.50	0.05
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	5.99	1.53	0.15	3.94	1.00	0.10	1.97	0.50	0.05
Totals		89.60	22.83	2.28	58.91	15.01	1.50	29.46	7.51	0.75

Methodology

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

Abbreviations

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

Appendix A.2: Limited Emissions Summary
Paved Roads
Limited Emissions

Company Name: **Walsh & Kelly, Inc.**
 Source Address: **1700 East Main Street, Griffith, Indiana 46319**
 Permit Number: **089-31548-03215**
 Reviewer: **Jack Harmon**

There are no 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 =	0	tons/yr
Percent Asphalt Cement/Binder (weight %) =	0.0%	
Maximum Material Handling Throughput =	0	tons/yr
Maximum Asphalt Cement/Binder Throughput =	0	tons/yr
No. 2 Fuel Oil Limitation =	0	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.0	0.0	0.00	0.0E+00	0.0E+00	0	0.000	0.0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.0	0	0.00	0.0E+00	0.0E+00	0	0.000	0.0
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.0	0.0	0.00	0.0E+00	0.0E+00	0	0.000	0.0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.0	0	0.00	0.0E+00	0.0E+00	0	0.000	0.0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.0	0.0	0.00	0.0E+00	0.0E+00	0	0.000	0.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.0	0	0.00	0.0E+00	0.0E+00	0	0.000	0.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.0	0.0	0.00	0.0E+00	0.0E+00	0	0.000	0.0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.0	0	0.00	0.0E+00	0.0E+00	0	0.000	0.0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.0	0.0	0.00	0.0E+00	0.0E+00	0	0.000	0.0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.0	0	0.00	0.0E+00	0.0E+00	0	0.000	0.0
Total					0.0E+00	0.0E+00	0	0.000	0.0E+00

Average Vehicle Weight Per Trip =	0.0	tons/trip
Average Miles Per Trip =	0.000	miles/trip

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

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	0.0	0.0	0.0	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f =	0.00	0.00	0.00	lb/mile
Mitigated Emission Factor, E_{ext} =	0.00	0.00	0.00	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.0E+00	0.0E+00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.0E+00	0.0E+00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Methodology

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

Abbreviations

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

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

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
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

Limited VOC Emissions from the Sum of the Liquid Binders = tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder	Weight % VOC solvent in binder that evaporates	VOC Solvent Usage Limitation (tons/yr)	Limited PTE of VOC (tons/yr)	Liquid Binder Adjustment Ratio
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	0.0%	95.0%	0.0	0.0	0.000
Cut back asphalt medium cure (assuming kerosene solvent)	0.0%	70.0%	0.0	0.0	0.000
Cut back asphalt slow cure (assuming fuel oil solvent)	22.0%	25.0%	0.0	0.0	0.000
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	9.6	4.5	2.155
Other asphalt with solvent binder	0.0%	2.5%	178.8	4.5	40.0
Worst Case Limited PTE of VOC =				4.47	

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
Limited PTE of Total HAPs (tons/yr) =	1.17
Limited PTE of Single HAP (tons/yr) =	0.40 Xylenes

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

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

Methodology

Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [VOC Solvent Usage Limitation (tons/yr)]
 Limited PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
 Limited PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]

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

Abbreviations

VOC = Volatile Organic Compounds
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Gasoline Fuel Transfer and Dispensing Operation**

Company Name: Walsh & Kelly, Inc.
Source Address: 1700 East Main Street, Griffith, Indiana 46319
Permit Number: 089-31548-03215
Reviewer: Jack Harmon

Note: Since the emissions from the gasoline fuel transfer and dispensing operation are minimal, the limited emissions are equal to the unlimited emissions.

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

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

Volatile Organic Compounds

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

Hazardous Air Pollutants

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

Methodology

The gasoline throughput was provided by the source.

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

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

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

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

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

Abbreviations

VOC = Volatile Organic Compounds
PTE = Potential to Emit



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Roger Knip
Walsh & Kelly, Inc.
1700 E Main St
Griffith, IN 46319

DATE: November 30, 2012

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

SUBJECT: Final Decision
FESOP
089-31548-03215

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.

Final Applicant Cover letter.dot 11/30/07



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Toll Free (800) 451-6027
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November 30, 2012

TO: Lake County Public Library

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

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Walsh & Kelly
Permit Number: 089-31548-03215

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Governor

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Commissioner

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

TO: Interested Parties / Applicant

DATE: November 30, 2012

RE: Walsh & Kelly / 089-31548-03215

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

In order to conserve paper and reduce postage costs, IDEM's Office of Air Quality is now sending many permit decisions on CDs in Adobe PDF format. The enclosed CD contains information regarding the company named above.

This permit is also available on the IDEM website at:
<http://www.in.gov/ai/appfiles/idem-caats/>

If you would like to request a paper copy of the permit document, please contact IDEM's central file room at:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Please Note: *If you feel you have received this information in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV.*

Enclosures
CD Memo.dot 11/14/08

Mail Code 61-53

IDEM Staff	CDENNY 11/30/2012 Walsh & Kelly, Inc. 089-31548-03215 (final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee
											Remarks
1		Roger Knip Walsh & Kelly, Inc. 1700 E Main St Griffith IN 46319 (Source CAATS)									
2		East Chicago City Council 4525 Indianapolis Blvd East Chicago IN 46312 (Local Official)									
3		Gary - Hobart Water Corp 650 Madison St, P.O. Box M486 Gary IN 46401-0486 (Affected Party)									
4		Lake County Health Department-Gary 1145 W. 5th Ave Gary IN 46402-1795 (Health Department)									
5		WJOB / WZVN Radio 6405 Olcott Ave Hammond IN 46320 (Affected Party)									
6		Lake Co Public Library 1919 W 81st Ave Merrillville IN 46410-5382 (Library)									
7		Shawn Sobocinski 3229 E. Atlanta Court Portage IN 46368 (Affected Party)									
8		Ms. Carolyn Marsh Lake Michigan Calumet Advisory Council 1804 Oliver St Whiting IN 46394-1725 (Affected Party)									
9		Mark Coleman 107 Diana Road Portage IN 46368 (Affected Party)									
10		Mr. Chris Hernandez Pipefitters Association, Local Union 597 8762 Louisiana St., Suite G Merrillville IN 46410 (Affected Party)									
11		Craig Hogarth 7901 West Morris Street Indianapolis IN 46231 (Affected Party)									
12		Lake County Commissioners 2293 N. Main St, Building A 3rd Floor Crown Point IN 46307 (Local Official)									
13		Griffith Town Council 111 N Broad Street Griffith IN 46319 (Local Official)									
14		Anthony Copeland 2006 E. 140th Street East Chicago IN 46312 (Affected Party)									
15		Barbara G. Perez 506 Lilac Street East Chicago IN 46312 (Affected Party)									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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Mail Code 61-53

IDEM Staff	CDENNY 11/30/2012 Walsh & Kelly, Inc. 089-31548-03215 (final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
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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		Robert 3733 Parrish Avenue East Chicago IN 46312 (Affected Party)									
2		Ms. Karen Kroczek 8212 Madison Ave Munster IN 46321-1627 (Affected Party)									
3		Joseph Hero 11723 S Oakridge Drive St. John IN 46373 (Affected Party)									
4		Gary City Council 401 Broadway # 209 Gary IN 46402 (Local Official)									
5		Mr. Larry Davis 268 South, 600 West Hebron IN 46341 (Affected Party)									
6		Gitte Laasby Post Tribune 1433 E. 83rd Ave Merrillville IN 46410 (Affected Party)									
7		Susan Severtson City of Gary Law Dept. 401 Broadway 4th Floor Gary IN 46402 (Local Official)									
8		Ryan Dave 939 Cornwallis Munster IN 46321 (Affected Party)									
9		Matt Mikus Post Tribune 1433 E 83rd Avenue Merrillville IN 46410 (Affected Party)									
10											
11											
12											
13											
14											
15											

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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