INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: May 24, 2005

RE: Caldwell Gravel Sales, Inc. / SSM 145-20820-00060

FROM: Paul Dubenetzky
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, Room 1049, 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.dot 1/10/05

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May 24, 2005

Ms. Dana Caldwell
Caldwell Gravel Sales, Inc. (CGS)
P.O. Box 212
Morristown, Indiana 46161

Re: 145-20820-00060
Significant Source Modification to:
Part 70 permit No.: 145-14524-00060

Dear Ms. Caldwell:

Caldwell Gravel Sales, Inc. (CGS), located at 11380 North 300 East, Morristown, Indiana 46161 was issued Part 70 operating permit 145-14524-00060, 05056 & 05202 on November 1, 2001 for stationary and portable asphalt plants. An application to modify the source was received on February 16, 2005. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

(a) One (1) hot continuous drum mixer, known as Kiln Hood Outlet, equipped with a baghouse, exhausted through Stack S-1a, to be constructed in 2005, with a maximum capacity of 300 tons of asphalt per hour; and

(b) One (1) dryer burner, known as Burner, burning either natural gas, diesel, or fuel oil no. 2, rated at 120.0 million British thermal units per hour (mmBtu/hr), equipped with a baghouse, and exhausting to Stack S-1a, to be constructed in 2005.

(c) Insignificant Activities: Five (5) storage bins, each with a throughput capacity of 175 tons per hour.

The above emission units will replace the existing 132 tons per hour hot continuous mixer and the existing 64.0 mmBtu/hr dryer burner at stationary asphalt Plant S-1.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder,

as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (800) 451-6027, press 0 and ask for Aida De Guzman or extension (3-4972), or dial (317) 233-4972.

Sincerely,

Original signed by
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
APD
cc: File - Shelby County
Shelby County Health Department
Air Compliance Section Inspector - DJ Knotts
Compliance Data Section
Administrative and Development

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PART 70 SIGNIFICANT SOURCE MODIFICATION
OFFICE OF AIR QUALITY

Caldwell Gravel Sales, Inc. (CGS)
11380 North 300 East
Morristown, Indiana 46161

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

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 2-7 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.

Significant Source Modification No.: T 145-20820-00060	
Issued by: Original signed by Paul Dubenetzky, Chief Permit Branch Office of Air Quality	Issuance Date: May 24, 2005

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

Stationary Asphalt Plant, known as S-1

(a) One (1) hot continuous drum mixer, known as Kiln Hood Outlet, equipped with a baghouse, exhausted through Stack S-1a, to be constructed in 2005, with a maximum capacity of 300 tons of asphalt per hour; and

(b) One (1) dryer burner, known as Burner, burning either natural gas, diesel, or fuel oil, rated at 120.0 million British thermal units per hour (mmBtu/hr), equipped with a baghouse, and exhausting to Stack S-1a, to be constructed in 2005.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

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

D.3.2 Particulate Matter PM and Particulate Matter Less than Ten Microns Minor Limit(PM10) [326 IAC 2-2]

Emissions from both Drum Mixer and Dryer Burner shall be limited as follows:

(a) the PM emissions shall be limited to 0.18 pounds per ton of asphalt produced.

(b) the PM10 emissions shall be limited to 0.18 pounds per ton of asphalt produced.

Compliance with this limit shall limit PM and PM10 to less than 250 tons per twelve month period.

D.3.3 Particulate Matter [326 IAC 12-1] [40 CFR Part 60.90, Subpart I]

(a) Pursuant to NSPS Subpart I, the PM emission rate from the hot continuous mixer exhausting through Stack S-1a shall not exceed 0.04 grains per dry standard cubic foot.

(b) Pursuant to NSPS Subpart I, hot continuous mixer exhausting through Stack S-1a shall not exhibit twenty (20%) percent opacity, or greater.

D.3.4 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the hot continuous mixer shall not exceed 63 pounds per hour when operating at a process weight rate of 300 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.3.5 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (SO_2 Emissions Limitations), the SO2 emissions from the one hundred-twenty (120) million British thermal units per hour (MMBtu/hr) dryer burner, known us Burner shall not exceed five tenths (0.5) pounds per million Btu heat input; and

Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a thirty (30) day rolling weighted average.

D.3.6 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]

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

(1) penetrating prime coating

(2) stockpile storage

(3) application during the months of November, December, January, February and March

(b) No cutback asphalt or emulsified asphalt shall be used at this plant without prior approval from OAQ.

D.3.7 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the hot continuous mixer and the dryer burner and its control device.

Compliance Determination Requirements

D.3.8 Particulate Matter (PM)

In order to comply with Conditions D.3.2 and D.3.3, the baghouses for PM control shall be in operation at all times that the hot continuous mixer and dryer burner are in operation.

D.3.9 Sulfur Dioxide Emissions and Sulfur Content

Compliance shall be determined utilizing one of the following options.

(a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million Btu heat input by:

(1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;

(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(A) Oil samples may be collected from the fuel tank immediately after the fuel

tank is filled and before any oil is combusted; and

(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the one hundred-twenty (120) million British thermal units per hour oil-fueled dryer/burner using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6. A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

D.3.10 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

During the period between 60 and 180 days after issuance of this permit, in order to demonstrate compliance with Conditions D.3.2, D.3.3, and D.3.4 the Permittee shall perform PM and PM10 testing utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.11 Visible Emissions Notations

(a) Visible emission notations of the hot continuous drum mixer, known as Kiln Hood Outlet baghouse Stack S-1a exhaust including conveyor and transfer points shall be performed once per shift 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) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

D.3.12 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the hot continuous drum mixer, known as Kiln Hood Outlet, at least once per shift when the process is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.

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

D.3.13 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the asphalt manufacturing operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.3.14 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have 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).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.15 Record Keeping Requirements

(a) To document compliance with Condition D.3.5, the Permittee shall maintain records in accordance with (1) through (6) below.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide (SO_2) emissions and nitrogen oxides emissions;

(3) 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, the natural gas fired boiler certification does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1); and

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

(4) Fuel supplier certifications.

(5) The name of the fuel supplier; and

(6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

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

(b) To document compliance with Condition D.3.6, the Permittee shall maintain records in accordance with (1) and (2) below.

(1) Calendar dates in the compliance determination period when asphalt emulsion is use, and

(2) The percent oil distillate by volume of emulsion for any paving application.

(c) To document compliance with Condition D.3.11, the Permittee shall maintain records of visible emission notations of the hot continuous mixer stack exhaust once per shift.

(d) To document compliance with Condition D.3.12, the Permittee shall maintain the following:

(1) Records of the following operational parameters during normal operation when venting to the atmosphere once per shift:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle operation.

(2) Documentation of the dates vents are redirected.

(e) To document compliance with Condition D.3.13, the Permittee shall maintain records of the results of the inspections required under Condition D.3.13 and the dates the vents are redirected.

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

D.3.16 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12] [40 CFR 60.116b]

The one (1) 20,000 gallon fuel oil storage tank shall comply with the New Source Performance Standards (NSPS), 326 IAC 12 (40 CFR Part 60.116b, Subpart Kb). 40 CFR Part 60.116b paragraphs (a) and (b) require the Permittee to maintain accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage vessel.

SECTION D.4

Facility Description [326 IAC 2-7-5(15)]:

Portable Asphalt Plant, known as W-1;
Portable Asphalt Plant, known as W-2;
Stationary Asphalt Plant, known as S-1.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Nitrogen Oxides and Sulfur Dioxide Emission Minor Limits [326 IAC 2-3] [326 IAC 2-2]

(a) The fuel oil no. 2 usage from Portable Asphalt Plant, known as W-1, Portable Asphalt Plant, known as W-2 and Stationary Asphalt Plant, known as S-1, shall be limited to 4,211,847 gallons per 12 consecutive month period with compliance determined at the end of each month. This usage limit is required to limit the potential to emit of nitrogen oxides to less than 100 tons per 12 consecutive month period and the sulfur dioxide to less than 250 tons per twelve consecutive month period.

(b) The natural gas and fuel oil No. 2 usage from Portable Asphalt Plant, known as W-1, Portable Asphalt Plant, known as W-2 and Stationary Asphalt Plant, known as S-1 shall have the following equivalency:

For every thousand gallon of fuel oil no. 2 with a maximum sulfur content of 0.45% shall be equivalent to 117 million cubic feet of natural gas.

Compliance with this limit will make 326 IAC 2-3, Emission Offset and 326 IAC 2-2, Prevention of Significant Deterioration (PSD) rules not applicable.

D.4.2 Record Keeping Requirements

(a) To document compliance with Condition D.4.1, the Permittee shall in addition to the records required by Condition D.1.11, Condition D.2.11, and Condition D.3.14 maintain records of the fuel oil usage from Portable Asphalt Plant, known as W-1, Portable Asphalt Plant, known as W-2 and Stationary Asphalt Plant, known as S-1. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the fuel oil usage limit established in Condition D.4.1.

(b) All records shall be maintained in accordance with Section C – General Record Keeping Requirements of the Part 70 permit.

D.4.3 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.4.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of the Part 70 permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Quarterly Report

Source Name: Caldwell Gravel Sales, Inc. (CGS)
Source Address: 11380 North 300 East, Morristown, IN 46161
Mailing Address: 11380 North 300 East, Morristown, IN 46161
Part 70 Permit No.: T145-14524-00060
Facility: Portable Asphalt Plant, known as W-1, Portable Asphalt Plant, known as W-2, and Stationary Asphalt Plant, known as S-1
Parameter: NOx & SO2
Limit: 4,211,847 gallons per 12 consecutive month period Fuel Oil No. 2 per twelve consecutive month period

Quarter: _____ Year: _____

Month	Fuel Type	%Sulfur Content of Fuel Oil No. 2	Fuel Oil No.2 Usage This Month	Equivalent Fuel Usage This Month	TOTAL Fuel Oil No.2 & Equivalent Fuel Usage This Month	Fuel Oil No. 2 Usage for Previous 11 Months (kgal)	Equivalent Fuel Usage for Previous 11 Months (kgal	TOTAL Fuel Oil No.2 & Equivalent Fuel Usage for Previous 11 Months (kgal)	Fuel Oil No.2 Usage 12 Month Total	Equivalent Fuel Usage 12 Month Total	Fuel Oil No.2 & Equivalent Fuel Usage 12 Month Total
1											
2											
3											

Note: For every thousand gallon of fuel oil no. 2 with a maximum sulfur content of 0.45% shall be equivalent to 117 million cubic feet of natural gas

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

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Significant Source Modification and Significant Permit Modification

Source Background and Description

Source Name:	Caldwell Gravel Sales, Inc. (CGS)
Source Location:	11380 N 300 East, Morristown, IN 46161
County:	Shelby
SIC Code:	2951
Operation Permit No.:	T145-14524-00060
Operation Permit Issuance Date:	November 1, 2001
Significant Source Modification No.:	145-20820-00060
Significant Permit Modification No.:	145-20917-00060
Permit Reviewer:	Aida De Guzman

The Office of Air Quality (OAQ) has reviewed a modification application fromCaldwell Gravel Sales, Inc. (CGS), a stationary and portable hot mixed asphalt plants relating to the construction of the following new emission units and pollution control devices:

(a) One (1) hot continuous drum mixer, known as Kiln Hood Outlet, equipped with a baghouse, exhausted through Stack S-1a, to be constructed in 2005, with a maximum capacity of 300 tons of asphalt per hour;

(b) One (1) dryer burner, known as Burner, burning either natural gas, diesel, or fuel oil no. 2, rated at 120.0 million British thermal units per hour (mmBtu/hr), equipped with a baghouse, and exhausting to Stack S-1a, to be constructed in 2005, and

(c) Insignificant Activities: Five (5) storage bins, each with a throughput capacity of 175 tons per hour.

The above emission units will replace the existing 132 tons per hour hot continuous mixer and the existing 64.0 mmBtu/hr dryer burner at stationary asphalt Plant S-1.

History

On February 16, 2005, Caldwell Gravel Sales, Inc. (CGS) submitted an application to the OAQ requesting to replace existing emission units at their existing stationary Asphalt Plant, S-1. Caldwell Gravel Sales, Inc. (CGS) was issued a Part 70 permit on November 1, 2001.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (^{o}F)
S-1a	Hot Continuous Drum Mixer	23’ 2”	Rectangular	62,000	ambient

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification 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 16, 2005

Emission Calculations

See pages 1 through 5 TSD Appendix A of this document for detailed emissions calculations.

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	5819
PM 2.5	24971
PM-10	24971
SO_2	265
NOx	177
VOC	2.9
CO	44.2

For combustion, the Fuel oil PTE was considered since it is the worst case, except for CO and VOC.

HAP's	Potential To Emit (tons/year)
Hexane	9.46E-01
Formaldehyde	3.9E-02
Nickel	2.68E-03
lead	4.73E-03
Toluene	1.79E-03
Benzene	1.10E-03
Beryllium	1.58E-03
Cadmium	1.58E-03
Mercury	1.58E-03
Arsenic	2.10E-03
Chromium	1.58E-03
Manganese	3.15E-03
Selenium	7.88E-03
Worst Single HAP	9.46E-01
Combined HAPs	1.02E+00

Justification for Modification

(a) The Part 70 source is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f) for a modification that has PTE greater than the thresholds under 326 IAC 2-7-10.5(d)(3) for PM, PM10, nitrogen oxides or SO_2 that will replace existing emission units but will result in an emission increase of actual emissions.

(b) The Part 70 Operating permit is being modified through a Part 70 Significant Permit Modification, pursuant to 326 IAC 2-7-12 since the revision does not qualify under an administrative amendment or a minor permit modification.

County Attainment Status

The source is located in Shelby County.

Pollutant	Status
PM-2.5	Attainment
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
1 hour Ozone	Attainment
8 hourOzone	Non-attainment
Lead	Not determined

(a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Shelby County has been designated as nonattainment for the 8-hour ozone standards. Therefore, VOC and NOx emissions and were reviewed pursuant to the requirements for Emission Offset 326 IAC 2-3.

(b) Shelby County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year, taken from the Part 70 Permit T145-14524-00060, 05056 & 05202 Issued on November 1, 2001):

Pollutant	Emissions (tons/year)
PM	122.0
PM-10	35.9
SO_2	95.6
VOC	11.8
CO	59.8
NOx	193

(a) This existing source is a major stationary source under 326 IAC 2-3, Emission Offset because NOx is emitted at greater than 100 tons per year.

(b) This existing source is not a major stationary source under 326 IAC 2-2, Prevention of

Significant Deterioration because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.

(c) Fugitive Emissions
There is an applicable New Source Performance Standards that is in effect on August 7, 1980, therefore fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are counted toward determination of PSD and Emission Offset applicability.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)							
Process/facility	PM	PM-2.5	PM-10	SO_2	VOC	CO	NO_X	HAPs
Modification (Drum Dryer & Dryer Burner)	29.9	124.9	124.9	148.6	0.73	10.6	177.0	7.6
Sourcewide PTE	120.5	153.2	153.2	212.0	9.74	45.6	99	7.6
PSD and Emission Offset Thresholds	250	250	250	250	100	250	100	-

(a) The source which is an existing major source under 326 IAC 2-3, Emission Offset will be a minor source, as the source requested an entire source limit in NOx emissions to less then 100 tons per year. Therefore, pursuant to 326 IAC 2-3, Emission Offset requirements do not apply to this modification.

(b) This modification to an existing minor source under 326 IAC 2-2, is not major for PM2.5 because emission increase for PM10, which is a surrogate for PM2.5 is less than the PSD major source level. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

(c) This modification to an existing minor source under 326 IAC 2-2, is not major for PM, SO2, and CO because each emission increase is less than the PSD major source level. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Federal Rule Applicability

(a) New Source Performance Standards (NSPS):
326 IAC 12 and 40 CFR Part 60.90, Subpart I – Standards of Performance for Hot Mix Asphalt facilities.
The new hot continuous drum mixer, known as Kiln Hood Outlet and dryer burner, known as Burner are subject to this NSPS, Subpart I, which requires the following:

(1) Performance tests, as specified in this Subpart and Part 60.8.

(2) On and after the date on which the performance tests are completed, no owner or operator subject to the provisions of Subpart I shall discharge into the atmosphere from any affected facility any gases which:

(A) contain particulate matter in excess of 0.04 grains per dry standard cubic foot:

(B) exhibit 20 percent opacity, or greater.

(b) There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) included in this proposed modification.

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

(d) 40 CFR Part 64, Compliance Assurance Monitoring
The CAM is applicable to specific emission unit based on individual pollutant, and must meet all of the following criteria:

(1) The emission unit must be located at a major source for which a Part 70 permit is required.
(2) Be subject to an emission limitation or standard.
(3) Use a control device to achieve compliance.
(4) Have potential precontrol emissions of at least 100 percent of the major source thresholds.

(A) The proposed hot continuous drum mixer, known as Kiln Hood Outlet meets all the above criteria and the NSPS, 40 CFR Part 60.90, Subpart I, that would be applicable for this unit was promulgated in 1977, which is before November 15, 1990 (note: units regulated under a NSPS or NESHAP that was promulgated after November 15, 1990 are exempted from CAM requirements). Therefore, a CAM is applicable to the hot continuous drum mixer.

Pursuant to 40 CFR 64, a CAM plan for the hot continuous drum mixer shall be submitted with the Part 70 permit renewal application, since this mixer potential to emit before controls is equal to or greater than the major source threshold, but less than the major source threshold after controls.

(B) The proposed dryer burner, known as Burner is not subject to CAM as it does not use a control to achieve compliance with the NOx emission

limitation.

State Rule Applicability – Entire Source

(a) 326 IAC 2-3 (Emission Offset)

(1) The source is an existing major source for ozone under 326 IAC 2-3, Emission Offset. The NOx emissions from this modification is more than 40 tons per year and it will be subject to Emission Offset. However, the source requested a sourcewide limit of less than 100 tons per year to remain a minor source under 326 IAC 2-3.

(2) The source VOC emissions are less than 100 tons per year since the source is a hot mixed asphalt plant and no liquid binders (VOL) are used or added to the asphalt. Liquid binders (VOL) are used in the production of cold mix asphalt, which the source does not produce.

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

(1) The SO2 emissions from this modification is greater than 250 tons per year. However, limiting the NOx emissions through fuel oil usage limit will also limit the SO2 emissions below 250 tons per year.

(2) Since the PM and PM10 emissions before control are each greater than 250 tons/yr, these pollutants will be limited to 0.19 lb of PM per ton of asphalt produced in order to avoid 326 IAC 2-2, Prevention of Significant Deterioration (PSD) requirements. See below calculations:

245 tons/yr * 2000 lb/ton * yr/8760 hrs * hr/300 ton = 0.18 lb PM/PM10 per ton asphalt (Note: discounting 4 tons of PM/PM10 from fuel combustion emissions).

(3) The source is an existing minor source under 326 IAC 2-2, as no other attainment pollutant is emitted at 250 tons per year or greater and it is not one of the 28 listed source categories.

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

(1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

(d) 326 IAC 2-4.1-1 (New Source Toxic Control)
This rule requires that new or reconstructed sources which emit single HAP at 10 tons per year or combined HAPs at 25 tons per year must apply Maximum Achievable Control Technology (MACT) to limit HAP emissions. This rule is not applicable to the new emission units as they do not emit HAPs at major levels.

State Rule Applicability - Individual Facilities

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

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the new hot continuous drum mixer known as Kiln Hood Outlet shall be limited to 63 pounds per hour at process weight

rate of 300 tons per hour. This PM limit was determined by the following:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The baghouse shall be in operation at all times the new hot continuous drum mixer known as Kiln Hood Outlet is in operation, in order to comply with this limit.

(b) 326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitation)
The sulfur dioxide (SO_2) emissions from the new dryer burner, known as Burner shall be limited to 0.5 pounds per million British thermal unit heat input when using distillate oil with a maximum sulfur content of 0.45% for combustion.

157(S = 0.45%) lb/1000 gal * 1 gal0.14 mmBtu = 0.5 pound/mmBtu, therefore this Burner meets the limit of 0.5 pound/mmBtu.

(c) 326 IAC 8-5-2 (Asphalt Paving Rules)
This rule requires that no source shall cause or allow the use of asphalt emulsion containing seven percent (7%) oil distillate by volume of emulsion for any paving application except as used for the following purposes:
(1) penetrating prime coating;
(2) stockpile storage;
(3) application during the month of November, December, January, February and March.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also 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 monitoring requirements applicable to this modification are as follows:

1. Visible Emissions Notations

(a) Visible emission notations of the hot continuous drum mixer known as Kiln Hood Outlet Stack S-1a exhaust including conveyor and transfer points shall be performed once per

shift 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) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.

2. Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the hot continuous drum mixer, known as Kiln Hood Outlet, at least once per shift when the process is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.

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

3. Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the hot continuous drum mixer, known as Kiln Hood Outlet. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

4. Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with

respect to normal, and the results of any response actions taken up to the time of notification.

(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have 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).

These monitoring conditions are necessary for the hot continuous drum mixer, known as Kiln Hood Outlet and the dryer burner baghouses to ensure their proper operation to keep the PM and PM10 potential to emit below the PSD thresholds under 326 IAC 2-2 and to comply with 326 IAC 6-3-2.

Changes to the Part 70 Permit

The Part 70 permit will be modified to incorporate the applicable requirements for the new hot continuous drum mixer, and dryer burner (additions are **bolded** and deletions are ~~struck-through~~ for emphasis):

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates one (1) stationary and two (2) portable asphalt plants.

Responsible Official:	Dana Caldwell
Source Address:	11380 North 300 East, Morristown, Indiana 46161
Mailing Address:	P.O. Box 212, Morristown, Indiana 46161
General Source Phone Number:	765-763-6258
SIC Code:	2951
County Location:	Shelby
Source Location Status:	**Nonattainment for the 8-hour ozone** Attainment for all **the other** criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD **Rules** ~~and/or~~ **Minor Source, under** Emission Offset Rules Minor Source, Section 112 of the Clean Air Act

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

This asphalt production company consists of three (3) plants:

(a) Portable asphalt plant W-1 (Plt Id 05056) is located at 11380 North 300 East, Morristown, Indiana;

(b) Portable asphalt plant W-2 (Plt Id 05202) is located at 11380 North 300 East, Morristown, Indiana;

(c) Stationary asphalt plant S-1 is located at 11380 North 300 East, Morristown, Indiana;

Since the three (3) plants are located on contiguous or adjacent properties, belong to the same industrial grouping and under common control of the same entity, they will be considered one (1) source, effective from the date of issuance of this Part 70 permit.

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)]
[326 IAC 2-7-5(15)]

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

Portable Asphalt Plant, known as W-1

(a) One (1) portable warm mix asphalt drum mixer, known as W1, constructed in 1967, purchased in 1994, modified and began operation in 1998, capacity: 200 tons of asphalt per hour.

(b) One (1) No. 2 fuel oil-fired dryer burner, rated at 62.0 million British thermal units per hour, exhausting through Stack W-1a, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(c) One (1) natural gas or No. 2 fuel oil-fired warm oil heater, known as W-1i, rated at 0.75 million British thermal units per hour, exhausting through Stack W-1i, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(d) One (1) diesel generator, known as E 34, rated at 205 kilowatts.

Portable Asphalt Plant, known as W-2

(e) One (1) portable warm mix asphalt drum mixer, known as W2, constructed in 1967, purchased in 1994, modified and began operation in 1998, capacity: 200 tons of asphalt per hour.

(f) One (1) No. 2 fuel oil-fired dryer burner, rated at 62.0 million British thermal units per hour, exhausting through Stack W-2a, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(g) One (1) natural gas or No. 2 fuel oil-fired warm oil heater, known as W-2i, rated at 0.75 million British thermal units per hour, exhausting through Stack W-2i, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(h) One (1) diesel generator, known as E 33, rated at 175 kilowatts.

Stationary Asphalt Plant, known as S-1

(i) ~~One (1) hot continuous mixer, known as Kiln Hood Outlet, equipped with a baghouse, exhausted through Stack S-1a, constructed in 1989, reconstructed in June 1997, capacity: 132 tons of asphalt per hour.~~
One (1) hot continuous drum mixer, known as Kiln Hood Outlet, equipped with a baghouse, exhausted through Stack S-1a, to be constructed in 2005, with a maximum capacity of 300 tons of asphalt per hour;

(j) ~~One (1) dryer burner, known as Burner, burning either natural gas or #2 distillate oil fuel, rated at 64.0 million British thermal units per hour, equipped with a baghouse, also exhausting through Stack S-1a, constructed in 1989, reconstructed in June 1997.~~
One (1) dryer burner, known as Burner, burning either natural gas, diesel, or fuel oil no. 2, rated at 120.0 million British thermal units per hour (mmBtu/hr), equipped with a baghouse, and exhausting to Stack S-1a, to be constructed in 2005.

(k) One (1) Almix natural gas or No. 2 fuel oil-fired hot oil heater, known as S1a, rated at 0.75 million British thermal units per hour, exhausting through Stack Ss1, installed in 1996.

(l) One (1) Burner Hawk Star natural gas or No. 2 fuel oil-fired hot oil heater, known as S1b,

rated at 0.75 million British thermal units per hour, exhausting through Stack Ss2, installed in 1996.

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source with portable plants also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) through (t) no change

(u) Five (5) storage bins, each with a throughput capacity of 175 tons per hour.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
Stationary Asphalt Plant, known as S-1

(i) ~~One (1) hot continuous mixer, known as Kiln Hood Outlet, equipped with a baghouse, exhausted through Stack S-1a, constructed in 1989, reconstructed in June 1997, capacity: 132 tons of asphalt per hour.~~

One (1) hot continuous drum mixer, known as Kiln Hood Outlet, equipped with a baghouse, exhausted through Stack S-1a, to be constructed in 2005, with a maximum capacity of 300 tons of asphalt per hour;

(j) ~~One (1) dryer burner, known as Burner, burning either natural gas or #2 distillate oil fuel, rated at 64.0 million British thermal units per hour, equipped with a baghouse, also exhausting through Stack S-1a, constructed in 1989, reconstructed in June 1997.~~

One (1) dryer burner, known as Burner, burning either natural gas, diesel, or fuel oil no. 2, rated at 120.0 million British thermal units per hour (mmBtu/hr), equipped with a baghouse, and exhausting to Stack S-1a, to be constructed in 2005.

(k) One (1) Almix natural gas or No. 2 fuel oil-fired hot oil heater, known as S1a, rated at 0.75 million British thermal units per hour, exhausting through Stack Ss1, installed in 1996.

(l) One (1) Burner Hawk Star natural gas or No. 2 fuel oil-fired hot oil heater, known as S1b, rated at 0.75 million British thermal units per hour, exhausting through Stack Ss2, installed in 1996.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

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

The PM and PM10 emissions before control from this modification are greater than the PSD major levels, therefore, these pollutants will be limited in the following Condition D.3.2. Subsequent conditions will be re-numbered accordingly.

D.3.2 Particulate Matter (PM) and Particulate Matter Less than Ten Microns Minor Limit (PM10) [326

IAC 2-2]

Emissions from both Drum Mixer and Dryer Burner shall be limited as follows:

(a) the PM emissions shall be limited to 0.18 pounds per ton of asphalt produced.

(b) the PM10 emissions shall be limited to 0.18 pounds per ton of asphalt produced.

Compliance with this limit shall limit PM and PM10 to less than 250 tons per twelve month period.

-

D.3.~~2~~**3** Particulate Matter [326 IAC 12-1] [40 CFR Part 60.90, Subpart I]

(a) Pursuant to NSPS Subpart I, the PM emission rate from the hot continuous mixer exhausting through Stack S-1a shall not exceed 0.04 grains per dry standard cubic foot ~~equivalent to 6.11 pounds per hour at a flow rate of 27,000 actual cubic feet per minute. The 17,820 dry standard cubic feet per minute flow rate is equivalent to 27,000 actual cubic feet per minute at a temperature of 300 degrees Fahrenheit and a moisture content of 5.0 percent.~~

(b) Pursuant to NSPS Subpart I, hot continuous mixer exhausting through Stack S-1a shall not exhibit twenty (20%) percent opacity, or greater.

D.3.~~3~~**4** Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the hot continuous mixer shall not exceed ~~54.1~~ **63** pounds per hour when operating at a process weight rate of ~~132~~ **300** tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.3.~~4~~**5** Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (SO_2 Emissions Limitations): ~~the SO_2 emissions from the sixty four (64.0) million British thermal units per hour oil-fueled dryer burner shall not exceed five tenths (0.5) pounds per MMBtu heat input. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average. 326 IAC 7-1.1 and 326 IAC 7-2-1 are not federally enforceable.~~

The SO2 emissions from the one hundred-twenty (120) million British thermal units per hour (MMBtu/hr) dryer burner, known us Burner shall not exceed five tenths (0.5) pounds per million Btu heat input; and

Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a thirty (30) day rolling weighted average.

D.3.~~5~~**6** Volatile Organic Compounds (VOC) [326 IAC 8-5-2]

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

(1) penetrating prime coating

(2) stockpile storage

(3) application during the months of November, December, January, February and March

(b) No cutback asphalt or emulsified asphalt shall be used at this plant without prior approval from OAQ.

D.3~~6~~**7** Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the hot continuous mixer and the dryer burner and its control device.

Compliance Determination Requirements

D.3.~~7~~**8** Particulate Matter (PM)

In order to comply with Conditions D.3.2 and D.3.3, the baghouse**s** for PM control shall be in operation ~~and control emissions from the hot continuous mixer~~ at all times that the ~~asphalt production processes~~ **hot continuous mixer and dryer burner** are in operation.

D.3.~~8~~**9** Sulfur Dioxide Emissions and Sulfur Content

Compliance shall be determined utilizing one of the following options.

(a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million Btu heat input by:

(1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;

(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the one hundred-twenty (120) million British thermal units per hour oil-fueled dryer/burner using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6. A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

D.3.~~9~~**10** Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

During the period between 60 and 180 days after issuance of this permit, in order to demonstrate compliance with Conditions D.3.2, ~~and~~ D.3.3, **and D.3.4** the Permittee shall perform PM and PM10 testing utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.~~10~~**11** Visible Emissions Notations

(a) Visible emission notations of the hot continuous **drum mixer, known as Kiln Hood Outlet** baghouse Stack S-1a exhaust **including conveyor and transfer points** shall be performed once per shift during normal daylight operations ~~when exhausting to the~~

~~atmosphere~~. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

D.3.~~11~~**12** Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the hot continuous drum mixer, **known as Kiln Hood Outlet**, at least once per shift when the process is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.

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

D.3.~~12~~**13** Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the asphalt manufacturing operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.3.~~13~~**14** Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have 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).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.~~14~~**15** Record Keeping Requirements

(a) To document compliance with Condition D.3.~~4~~ **5**, the Permittee shall maintain records in accordance with (1) through (6) below.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide (SO_2) emissions and nitrogen oxides emissions;

(3) 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, the natural gas fired boiler certification does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1); and

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

(4) Fuel supplier certifications.

(5) The name of the fuel supplier; and

(6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

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

(b) To document compliance with Condition D.3.~~5~~ **6**, the Permittee shall maintain records in accordance with (1) and (2) below.

(1) Calendar dates in the compliance determination period when asphalt emulsion is use, and

(2) The percent oil distillate by volume of emulsion for any paving application.

(c) To document compliance with Condition D.3.~~10~~ **11**, the Permittee shall maintain records of visible emission notations of the hot continuous mixer stack exhaust once per shift.

(d) To document compliance with Condition D.3.~~11~~ **12**, the Permittee shall maintain the following:

(1) Records of the following operational parameters during normal operation when venting to the atmosphere once per shift:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle operation.

(2) Documentation of the dates vents are redirected.

(e) To document compliance with Condition D.3.~~12~~ **13**, the Permittee shall maintain records of the results of the inspections required under Condition D.3.~~12~~ **13**and the dates the vents are redirected.

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

D.3.~~15~~**16**Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12] [40 CFR 60.116b]

The one (1) 20,000 gallon fuel oil storage tank shall comply with the New Source Performance Standards (NSPS), 326 IAC 12 (40 CFR Part 60.116b, Subpart Kb). 40 CFR Part 60.116b paragraphs (a) and (b) require the Permittee to maintain accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage vessel.

The following Section will be added:

SECTION D.4

Facility Description [326 IAC 2-7-5(15)]:

Portable Asphalt Plant, known as W-1,;
Portable Asphalt Plant, known as W-2;
Stationary Asphalt Plant, known as S-1,

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Nitrogen Oxides and Sulfur Dioxide Emission Minor Limits [326 IAC 2-3] [326 IAC 2-2]

(a) The fuel oil no. 2 usage from Portable Asphalt Plant, known as W-1, Portable Asphalt Plant, known as W-2 and Stationary Asphalt Plant, known as S-1, shall be limited to 4,211,847 gallons per 12 consecutive month period with compliance determined at the end of each month. This usage limit is required to limit the potential to emit of nitrogen oxides to less than 100 tons per 12 consecutive month period and the sulfur dioxide to less than 250 tons per twelve consecutive month period.

(b) The natural gas and fuel oil No. 2 usage from Portable Asphalt Plant, known as W-1, Portable Asphalt Plant, known as W-2 and Stationary Asphalt Plant, known as S-1 shall have the following equivalency:

For every thousand gallon of fuel oil no. 2 with a maximum sulfur content of 0.45% shall be equivalent to 117 million cubic feet of natural gas.

Compliance with this limit will make 326 IAC 2-3, Emission Offset and 326 IAC 2-2, Prevention of Significant Deterioration (PSD) rules not applicable.

D.4.2 Record Keeping Requirements

(a) To document compliance with Condition D.4.1, the Permittee shall in addition to the records required by Condition D.1.11, Condition D.2.11, and Condition D.3.14 maintain records of the fuel oil usage from Portable Asphalt

Plant, known as W-1, Portable Asphalt Plant, known as W-2 and Stationary Asphalt Plant, known as S-1. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with the fuel oil usage limit established in Condition D.4.1.

(b) All records shall be maintained in accordance with Section C – General Record Keeping Requirements of the Part 70 permit.

D.4.3 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.4.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of the Part 70 permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Quarterly Report

Source Name: **Caldwell Gravel Sales, Inc. (CGS)**
Source Address: **11380 North 300 East, Morristown, IN 46161**
Mailing Address: **11380 North 300 East, Morristown, IN 46161**
Part 70 Permit No.: **T145-14524-00060**
Facility: **Portable Asphalt Plant, known as W-1, Portable Asphalt Plant, known as W-2, and Stationary Asphalt Plant, known as S-1**
Parameter: **NOx & SO2**
Limit: **4,211,847 gallons per 12 consecutive month period Fuel Oil No. 2 per twelve consecutive month period**

Quarter: _____ Year: _____

Month	Fuel Type	%Sulfur Content of Fuel Oil No. 2	Fuel Oil No.2 Usage This Month	Equivalent Fuel Usage This Month	TOTAL Fuel Oil No.2 & Equivalent Fuel Usage This Month	Fuel Oil No. 2 Usage for Previous 11 Months (kgal)	Equivalent Fuel Usage for Previous 11 Months (kgal	TOTAL Fuel Oil No.2 & Equivalent Fuel Usage for Previous 11 Months (kgal)	Fuel Oil No.2 Usage 12 Month Total	Equivalent Fuel Usage 12 Month Total	Fuel Oil No.2 & Equivalent Fuel Usage 12 Month Total
1											
2											
3											

Note: For every thousand gallon of fuel oil no. 2 with a maximum sulfur content of 0.45% shall be equivalent to 117 million cubic feet of natural gas

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

SECTION ~~D.4~~ D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: **Insignificant Activities Stationary Plant S-1**

(~~a~~ **l**) One (1) storage bin, known as Bin #1, throughput capacity of 22.4 tons of #11 stone per hour. (326 IAC 6-3-2)

(~~b~~ **m**) One (1) storage bin, known as Bin #2, throughput capacity of 52.3 tons of #11 gravel or #5 stone per hour. (326 IAC 6-3-2)

(~~c~~**n**) One (1) storage bin, known as Bin #3, throughput capacity of 82.2 tons of #9 gravel per hour. (326 IAC 6-3-2)

(~~d~~ **o**) One (1) storage bin, known as Bin #4, throughput capacity of 74.8 tons of sand per hour. (326 IAC 6-3-2)

(~~e~~ **p**) One (1) bucket elevator. (326 IAC 6-3-2)

(~~f~~ **q**) Two (2) silos, known as Silo 1 and Silo 2. (326 IAC 6-3-2)

(u) Five (5) storage bins, each with a throughput capacity of 175 tons per hour.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

~~D.4.1~~**D.5.1** Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3, the particulate matter (PM) from the ~~four (4)~~ **nine (9)** storage bins, one (1) bucket elevator and two (2) silos shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

SECTION ~~D.5~~D.6 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Insignificant Activities - Portable Plants W-1 and W-2

(f) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. (326 IAC 6-1)

(g) Any of the following structural steel and bridge fabrication activities: using 80 tons or less of welding consumables. (326 IAC 6-1)

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

~~D.5.1~~ **D.6.1** Nonattainment Area PM Limitations [326 IAC 6-1]

Pursuant to 326 IAC 6-1-7, the brazing, cutting, soldering, welding and steel and bridge fabricating activities shall meet the allowable PM emission limitation pursuant to 326 IAC 6-1-2 (a) of 0.03 grains per standard dry cubic feet per minute. Since it may not practical to measure the grain loading from these insignificant activities, 326 IAC 6-1-2(g) requires compliance with 326 IAC 2, 326 IAC 5-1 and 326 IAC 6-4.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached Part 70 **Significant Source Modification No.: 145-20820-00060 and Significant Permit Modification No.:145-20917-00060.**

Appendix A: Emissions Calculations
Industrial Boilers (> 100 mmBtu/hr)
Fuel Oil (>100mmBtu/hr)

Company Name: Caldwell Gravel Sales, Inc. (CGS)
Address, City IN Zip: 11380 N 300 East, Morristown, IN 46161
Permit Number: SSM 145-20820
Plt ID: 145-00060, 05056, 05202
Reviewer: Aida De Guzman
Date Application Received: Feb. 16, 2005

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
		0.45
120 Dryer Burner	7508.57	

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	10	1.5	70.65 *(157S)*	47.0	0.34	5.0
PTE Before Control (tons/yr)	37.5	5.6	265.2	176.5	1.3	18.8

Note: EFs were based on the worst case from all fuel oils as proposed by the source.
Baghouse controls the PM w/ 99.96% efficiency.

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-02-005-01/02/03) Supplement E 9/98
*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.
Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

Appendix A: Emissions Calculations
Industrial Boilers (> 100 mmBtu/hr)
#1 and #2 Fuel Oil
HAPs Emissions

Company Name: Caldwell Gravel Sales, Inc. (CGS)
Plant Location: 11380 N 300 East, Morristown, IN 46161
Permit Number: SSM 145-20810
Plant Number: 145-00060, 05056, 05202
Date Application Received: Feb. 16, 2005
Permit Reviewer: Aida De Guzman

120 mmBtu/hr
Dryer Burner

	HAPs - Metals				
	Arsenic	Beryllium	Cadmium	Chromium	Lead
Emission Factor in lb/mmBtu	4.0E-06	3.0E-06	3.0E-06	3.0E-06	9.0E-06
Potential Emission in tons/yr	2.10E-03	1.58E-03	1.58E-03	1.58E-03	4.73E-03

	HAPs - Metals (continued)			
	Mercury	Manganese	Nickel	Selenium
Emission Factor in lb/mmBtu	3.0E-06	6.0E-06	3.0E-06	1.5E-05
Potential Emission in tons/yr	1.58E-03	3.15E-03	1.58E-03	7.88E-03

Methodology

No data was available in AP-42 for organic HAPs.

Potential Emissions (tons/year) = Throughput (mmBtu/hr)*Emission Factor (lb/mmBtu)*8,760 hrs/yr / 2,000 lb/ton

Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR >100
Utility Boiler

Company Name: Caldwell Gravel Sales, Inc. (CGS)
Address, City IN Zip: 11380 N 300 East, Morristown, IN 46161
Permit Number: SSM 145-20820
Plt ID: 145-00060, 05056, 05202
Reviewer: Aida De Guzman
Date Application Received: Feb. 16, 2005

Heat Input Capacity MMBtu/hr		Potential Throughput MMCF/yr
120.0	Dryer Burner	1051.2

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	280.0 **see below	5.5	84.0
PTE Before Control (tons/yr)	4.0	4.0	0.3	147.2	2.9	44.2

*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 280 (pre-NSPS) or 190 (post-NSPS), Low NOx Burner = 140, Flue gas recirculation = 100 (See Table 1.4-1)

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 2 for HAPs emissions calculations.

Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR >100
Utility Boiler
HAPs Emissions

Company Name: Caldwell Gravel Sales, Inc. (CGS)
Address, City IN Zip: 11380 N 300 East, Morristown, IN 46161
Permit Number: SSM 145-20820
Plt ID: 145-00060, 05056, 05202
Reviewer: Aida De Guzman
Date Application Received: Feb. 16, 2005

120 mmBtu/hr
Dryer Burner

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.10E-03	6.31E-04	3.94E-02	9.46E-01	1.79E-03

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	2.63E-04	5.78E-04	7.36E-04	2.00E-04	1.10E-03

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Company Name: Caldwell Gravel Sales, Inc. (CGS)
Address City IN Zip: 11380 N 300 East, Morristown, IN 46161
Permit Number: SSM 145-20820
Plant ID: 145-00060, 05056, 05202
Reviewer: Aida De Guzman
Date Application Received: Feb. 16, 2005

Dryer Mixer				
Pollutant		Emission Factor	PTE (tons/yr)	PTE (tons/yr)
	(tons/hr)	(lbs/ton)	(Before Control)	(After Control)
PM10	300	4.4	5781.6	28.908
PM	300	19	24966	124.83
Lead	300	######	0.003942	0.004
HAPs	300	0.0058	7.6212	7.6212

Baghouse for mixer will be assumed at 99.5% efficiency
Baghouse for the dryer will be assumed at 99.5% efficiency.

Methodology:
Emissions, tons/yr = Rate, ton/hr * Ef, lb/ton * ton/2000 lbs * 8760 hrs/yr

	Dryer Burner				Aggregate Drying - Drum Mixer		Total Uncontrolled PTE		Total Controlled PTE	
Pollutant	Uncontrolled Fuel Oil PTE (tons/year)	Controlled Fuel Oil PTE (tons/year)	Uncontrolled N.G. PTE (tons/yr)	Controlled N.G. PTE (tons/yr)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Fuel Oil + Uncontrolled Drying (tons/year)	N.G. + Uncontrolled Drying (tons/year)	Fuel Oil. + Controlled Drying (tons/year)	N.G. + Controlled Drying (tons/year)
PM	37.5	1.87	4	0.2	5781.6	28.908	5819	5781.8	66.408	29.108
PM10	5.6	0.28	4	0.2	24966	124.83	"24971.6	24966.2	130.43	125.03
SO2	265	265	0.3	0.3			265	0.3	265	0.3
NOx	176.5	176.5	147.2	147.2			177	147.2	177	147.2
VOC	1.3	1.3	2.9	2.9			1.3	2.9	1.3	2.9
CO	18.8	18.8	44.2	44.2			18.8	44.2	18.8	44.2
Lead						0.004	####	0.004	0.004	0.004
HAPs						7.6212	7.6	7.6	7.6	7.6

Note: The combustion emission is assumed to include the drying process emissions, since there no emission factor for the drying alone.

Since the NOx PTE from fuel oil plus the controlled PTE from the aggregate drying is greater than 100 tons per year, the fuel oil usage will be limited in order to limit the NOx and SO2 emissions below 100 tons/yr and 250 tons/year, respectively. Therefore, fuel oil usage will be as follows:

Fuel Oil Limit = 99 tons/year /176.5 tons/year * 7509 kgal/yr
4, 211 kgal/yr
4,211,847 gallons per year The source requested an entire sourcewide limit of 99 tons of NOX per year to avoid 326 IAC 2-3 for the modification and to keep the source minor.

Fuel Equivalency:

70.65 lb/kgal F.O * MMCF N.G./0.6 lb = 117 MMCF N.G. / k gal F.O.

	Modification			Sourcewide	
Pollutant	Fuel Oil Limit	Controlled Drying	TOTAL Limited PTE	Existing Source PTE	TOTAL Limited PTE
	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
PM	1.05	28.908	29.96	90.50	120.46
PM10	0.16	124.83	124.99	28.20	153.19
SO2	148.64		148.64	63.40	212.04
NOx	177.00		177.00	148.40	99.00
VOC	0.73		0.73	9.01	9.74
CO	10.55		10.55	35.00	45.55
Lead		0.004	0.004		0.004
HAPs		7.6	7.60		7.60

F.O. Pollutant PTE Limit (modification)= 99/176.5 * pollutant PTE