



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

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

TO: Interested Parties / Applicant

DATE: March 24, 2010

RE: Carlisle Industrial Brake & Friction / 105 - 28659 - 00013

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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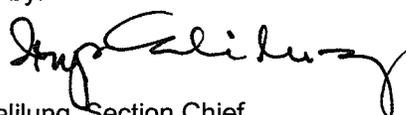
## New Source Construction and Minor Source Operating Permit OFFICE OF AIR QUALITY

**Carlisle Industrial Brake & Friction  
1031 E Hillside Drive  
Bloomington, Indiana 47401**

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

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

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 MSOP under 326 IAC 2-6.1.

Operation Permit No.: M105-28659-00013	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date:      March 24, 2010 Expiration Date:      March 24, 2015

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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 and A.2 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 2-5.1-3(c)][326 IAC 2-6.1-4(a)]

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The Permittee owns and operates a stationary motor vehicle parts and accessories, including brakes, brake parts, and clutch parts, manufacturing facility.

Source Address:	1031 E Hillside Drive, Bloomington, Indiana 47401
Mailing Address:	1031 E Hillside Drive, Bloomington, IN 47401
General Source Phone Number:	812-334-8711
SIC Code:	3714
County Location:	Monroe
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source 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

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

- (a) One Brake Assembly and Brake Part manufacturing operation, including the following:
  - (1) Metal Surface Coating Operations, including the following:
    - (A) One (1) Spray Paint Booth, identified as PB1, constructed in 1992, using air atomization to spray coatings on metal automotive brake assemblies and actuator assemblies, with a maximum application rate of thirty-three hundredths (0.33) gal/hr, equipped with dry filters for particulate control, and exhausting outside the building through stack S-PB1;
    - (B) One (1) Spray Paint Booth, identified as PB2, constructed in 1992, using air atomization to spray coatings on metal automotive brake assemblies, with a maximum application rate of fifty hundredths (0.50) gal/hr, equipped with dry filters for particulate control, and exhausting outside the building through stack S-PB2;
    - (C) One (1) Spray Paint Booth, identified as PB3, constructed in 1992, using air atomization to spray coatings on metal automotive brake assemblies, with a maximum application rate of fifty hundredths (0.50) gal/hr, equipped with dry filters for particulate control, and exhausting outside the building through stack S-PB3;
    - (D) One (1) natural gas-fired Aquamaster CM 3600 Parts Washer/Conveyorized degreaser, identified as PW1, constructed in 2007, with a maximum throughput capacity of ninety (90) parts/hr, consisting of one (1) twenty-seven hundredths (0.27) MMBtu/hr Pre-Wash Burner, one (1) seventy hundredths (0.70) MMBtu/hr Dip Stage

Burner, one (1) twenty-seven hundredths (0.27) MMBtu/hr Rinse Stage Burner, and one (1) twenty-five hundredths (0.25) MMBtu/hr Blow-off Stage Burner, using a water-based VOC and HAP free alkaline solvent, uncontrolled and exhausting to the outside through stacks S-PW1A, S-PW1B, and S-PW1C;

- (E) Seven (7) Parts Washers/cold cleaner degreasers, each using a water-based alkaline solvent, uncontrolled and exhausting to the inside of the building. No VOC or HAP emissions are anticipated from the solvent usage in these units. Including the following:
    - (i) Four (4) Parts Washers/cold cleaner degreasers, identified as PW2 through PW4 and PW6, each constructed in 1993, with a maximum solvent replacement volume of six hundredths (0.06) gal/day;
    - (ii) One (1) Parts Washer/cold cleaner degreaser, identified as PW5, constructed in 1988, with a maximum solvent replacement volume of six hundredths (0.06) gal/day; and
    - (iii) Two (2) Parts Washers/cold cleaner degreasers, identified as PW7 and PW8, each constructed in 2009, with a maximum replacement volume of six teen hundredths (0.16) gal/day.
  - (F) One (1) natural gas-fired Paint Drying Oven, identified as OV1, constructed in 1992, with a maximum heat input capacity of one (1.00) MMBtu/hr, uncontrolled and exhausting outside the building through stack S-OV1; and
  - (G) One (1) natural gas-fired Permafuse Oven, identified as OV2, constructed in 2007, with a maximum heat input capacity of eighty hundredths (0.80) MMBtu/hr, processing a maximum of fifteen (15.0) brake parts, or twenty-two hundredths (0.22) pounds of bonding film, per hour, uncontrolled and exhausting outside the building through stack S-OV2.
- (2) Metal Machining Operations
- (A) One (1) Lathe Machine M1800, identified as LM1, constructed in 2006, having a maximum throughput of twenty (20) metal automotive brake parts/hour or one hundred (100) pounds of metal parts/hour, with particulate emissions controlled by a portable dust collector, identified as baghouse BH5, and exhausting inside the building;
  - (B) One (1) Vertical Turret Lathe M1905, identified as LM2, constructed in 2006, having a maximum throughput of five (5) metal automotive brake parts/hour or four hundred twenty-five 425 pounds of metal parts/hour, with particulate emissions controlled by a portable dust collector, identified as baghouse BH5, and exhausting inside the building;
  - (C) One (1) Vertical Turret Lathe M1900, identified as LM3, constructed in 1981, having a maximum throughput of five (5) metal automotive brake parts/hour or two hundred fifty 250 pounds of metal parts/hour, with particulate emissions controlled by a portable dust collector, identified as baghouse BH5, and exhausting inside the building; and

- (D) One (1) Vertical Turret Lathe M1921, identified as LM4, constructed in 2006, having a maximum throughput of twelve (12) metal automotive brake parts/hour or one hundred forty-four (144) pounds of metal parts/hour, with particulate emissions controlled by a portable dust collector, identified as baghouse BH5, and exhausting inside the building.
- (3) Metal Grinding and Finishing Operations
  - (A) One (1) Grinder M1796, identified as G1, constructed in 2007, for the finishing of metal brake parts, having a maximum throughput of eight (8) parts/hour or five tenths (0.5) lbs/hour, with particulate emissions controlled by baghouse (BH3), and exhausting inside the building; and
  - (B) One (1) Grinder M1797, identified as G2, constructed in 2007, having a maximum throughput of twenty (20) parts/hour or five tenths (0.5) lbs/hour, with particulate emissions controlled by baghouse (BH4), and exhausting inside the building.
- (b) Clutch lining manufacturing operation, including the following:
  - (1) Friction Materials Closed/Compression Molding Operations
    - (A) One (1) Mixer, identified as M1, approved for construction in 2010, for the mixing of friction materials, having a maximum throughput capacity of two hundred fifty (250) lbs/hour, with particulate emissions controlled by baghouse (BH1), and exhausting outside the building through stack S-BH1;
    - (B) Eight (8) Clutch Lining Presses, identified as PR1 through PR8, for the forming of friction materials into clutch lining parts, approved for construction in 2010, electrically heated, having a combined maximum throughput capacity of thirty (30) lbs/hour, uncontrolled and exhausting inside the building;
    - (C) One (1) Pre-form Machine, identified as PM1, approved for construction in 2010, for the forming of friction materials into pre-form blocks, having a maximum throughput capacity of two hundred (200) lbs/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2;
    - (D) Two (2) Military Block Presses, identified as PR9 and PR10, approved for construction in 2010, for the forming of pre-form blocks into military blocks, electrically heated, having a combined maximum throughput capacity of two hundred (200) lbs/hour, uncontrolled and exhausting inside the building; and
    - (E) Four (4) Cabinet Ovens, identified as OV3 through OV6, approved for construction in 2010, for the curing of clutch lining and military block parts, electrically heated, having a combined maximum throughput capacity of two hundred (200) lbs of molded parts/hour, uncontrolled and exhausting inside the building;

(2) Friction Materials Machining Operations

- (A) One (1) Cutting Machine, identified as C1, approved for construction in 2010, for the sizing of molded parts, having a maximum throughput capacity of seventy-five (75) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2;
- (B) One (1) Slitting Machine, identified as S1, approved for construction in 2010, for the shaping of molded parts, having a maximum throughput capacity of two hundred (200) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2; and
- (C) One (1) Drill Machine, identified as D1, approved for construction in 2010, for the shaping of molded parts, having a maximum throughput capacity of two hundred (200) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2.

(3) Friction Materials Grinding and Finishing Operations

- (A) One (1) Sander, identified as S2, approved for construction in 2010, for the sizing of molded parts, having a maximum throughput capacity of seventy-five (75) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2;
  - (B) One (1) Grinder, identified as G3, approved for construction in 2010, for the shaping of molded parts, having a maximum throughput capacity of two hundred (200) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2; and
  - (C) One (1) Grinder, identified as G4, approved for construction in 2010, for the shaping of molded parts, having a maximum throughput capacity of two hundred (200) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2.
- (c) One (1) natural gas fired boiler, identified as B1, initially constructed in 1953 and a burner replacement in 1976, with a maximum heat input capacity of twelve and fifty-six hundredths (12.56) MMBtu per hour, uncontrolled and exhausting outside the building through stack S-B1.
  - (d) One (1) natural gas fired boiler, identified as B2, initially constructed in 1953 and a burner replacement in 1976, with a maximum capacity of twelve and fifty-six hundredths (12.56) MMBtu per hour, uncontrolled and exhausting outside the building through stack S-B2.
  - (e) One (1) Emergency Diesel Fire Pump Engine, identified as FP1, constructed in 1981, with a maximum power output rating of ninety-seven (97.0) hp, uncontrolled and exhausting outside the building.
  - (f) One (1) natural gas-fired Hot Water Boiler, identified as HWB1, constructed in 1998, with a maximum heat input capacity of thirty-four hundredths (0.34) MMBtu/hr, uncontrolled and exhausting inside the building;

- (g) One (1) natural gas-fired Heat Treat Oven used for maintenance and R&D, identified as OV7, approved for construction in 2010, with a maximum heat input capacity of sixty hundredths (0.60) MMBtu/hr, uncontrolled and exhausting outside the building through stack S-HT1;
- (h) Maintenance activities, as defined in 326 IAC 2-1.1-3(e)(34), including:
  - (1) Repair and maintenance of paved and unpaved roads, including paving or sealing, or both, of parking lots and roadways.
  - (2) Painting, including interior and exterior painting of buildings, and solvent use excluding degreasing operations utilizing halogenated organic solvents.
  - (3) Brazing, soldering, or welding operations and associated equipment; including: One (1) Welding Booth with Three (3) MIG Welders, One (1) TIG Welder, Two (2) Stick Welders, One (1) Cutting Torch, and One (1) Plasma Cutter
  - (4) Blast-cleaning equipment using water as the suspension agent and associated equipment.
  - (5) Lubrication, including:
    - (A) hand-held spray can lubrication;
    - (B) dipping metal parts into lubricating oil; or
    - (C) manual or automated addition of cutting oil in machining operations.
- (i) Four (4) Horizontal Mills, Four (4) Lathes, Two (2) CNC Machines, Two (2) Table Saws, and Five (5) Bench Grinders used for maintenance activities, constructed in 1981, all controlled by an area dust collector (MicroAir MX 3500, gas flow rate = 3,500cfm) and exhausting inside the building; and
- (j) Activities performed using hand-held equipment, as defined in 326 IAC 2-1.1-3(e)(35), including:
  - (1) Cutting, excluding cutting torches.
  - (2) Grinding.
  - (3) Machining wood, metal, or plastic.
  - (4) Surface grinding.
  - (5) Turning wood, metal, or plastic.
- (k) Storage equipment and activities, as defined in 326 IAC 2-1.1-3(e)(39), including pressurized storage tanks and associated piping for the following:
  - (1) Acetylene.
  - (2) Liquid natural gas (LNG) (propane).
- (l) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;

- (m) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings;
- (n) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (o) One (1) Test Lab Facility, as defined in 326 IAC 2-1.1-3(e)(2); and
- (p) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

## **SECTION B GENERAL CONDITIONS**

### **B.1 Definitions [326 IAC 2-1.1-1]**

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 2-1.1-1) shall prevail.

### **B.2 Revocation of Permits [326 IAC 2-1.1-9(5)]**

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit 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.

### **B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4]**

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 when prior to the start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.
- (c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

### **B.4 Permit Term [326 IAC 2-6.1-7(a)] [326 IAC 2-1.1-9.5] [IC 13-15-3-6(a)]**

- (a) This permit, M105-28659-00013, is issued for a fixed term of five (5) 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.5 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.6 Enforceability**

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.7 Severability**

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

**B.8 Property Rights or Exclusive Privilege**

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

**B.9 Duty to Provide Information**

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

**B.10 Certification**

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- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

**B.11 Annual Notification [326 IAC 2-6.1-5(a)(5)]**

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- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 1 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, IN 46204-2251
- (c) The notification 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.

**B.12 Preventive Maintenance Plan [326 IAC 1-6-3]**

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- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within 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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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

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- (a) All terms and conditions of permits established prior to M105-28659-00013 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 2-6.1-7(a)]**

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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 one hundred twenty (120) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

**B.15 Permit Renewal [326 IAC 2-6.1-7]**

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- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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

- (b) A timely renewal application is one that is:
- (1) Submitted at least one hundred twenty (120) days 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 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

**B.16 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]**

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- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.

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

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

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

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

**B.17 Source Modification Requirement**

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

**B.18 Inspection and Entry**  
[326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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

- (a) Enter upon the Permittee's premises where a permitted 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.19 Transfer of Ownership or Operational Control** [326 IAC 2-6.1-6]

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- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

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

- (c) The Permittee may implement notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

**B.20 Annual Fee Payment** [326 IAC 2-1.1-7]

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- (a) The Permittee shall pay annual fees due within thirty (30) calendar days of receipt of a bill from IDEM, OAQ,.

- (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.21 Credible Evidence [326 IAC 1-1-6]**

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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 2-6.1-5(a)(1)]

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

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

**C.2 Permit Revocation [326 IAC 2-1.1-9]**

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

**C.3 Opacity [326 IAC 5-1]**

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

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

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

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

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

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

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

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

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

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

All required notifications shall be submitted to:

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

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

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

- (f) **Demolition and Renovation**  
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

### **Testing Requirements [326 IAC 2-6.1-5(a)(2)]**

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

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

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

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

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

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

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

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 2-6.1-5(a)(2)]**

### **C.10 Compliance Monitoring [326 IAC 2-1.1-11]**

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

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

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

### **C.12 Instrument Specifications [326 IAC 2-1.1-11]**

- (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**

### **C.13 Response to Excursions or Exceedances**

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
  - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records; and/or

- (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
  - (1) monitoring data;
  - (2) monitor performance data, if applicable; and
  - (3) corrective actions taken.

**C.14 Actions Related to Noncompliance Demonstrated by a Stack Test**

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

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

**Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]**

**C.15 Malfunctions Report [326 IAC 1-6-2]**

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Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.16 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this permit shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251
- (b) 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.
- (c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. 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.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description: [326 IAC 2-6.1-5(a)(1)]: Surface Coating Operations

- (a) One Brake Assembly and Brake Part manufacturing operation, including the following:
- (1) Metal Surface Coating Operations, including the following:
- (A) One (1) Spray Paint Booth, identified as PB1, constructed in 1992, using air atomization to spray coatings on metal automotive brake assemblies and actuator assemblies, with a maximum application rate of thirty-three hundredths (0.33) gal/hr, equipped with dry filters for particulate control, and exhausting outside the building through stack S-PB1;
- (B) One (1) Spray Paint Booth, identified as PB2, constructed in 1992, using air atomization to spray coatings on metal automotive brake assemblies, with a maximum application rate of fifty hundredths (0.50) gal/hr, equipped with dry filters for particulate control, and exhausting outside the building through stack S-PB2;
- (C) One (1) Spray Paint Booth, identified as PB3, constructed in 1992, using air atomization to spray coatings on brake metal automotive assemblies, with a maximum application rate of fifty hundredths (0.50) gal/hr, equipped with dry filters for particulate control, and exhausting outside the building through stack S-PB3;

(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 2-6.1-5(a)(1)]

#### D.1.1 VOC Limit [326 IAC 8-2-9]

- (a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) emissions from any coatings delivered to each applicator shall not exceed three and five tenths (3.5) pounds of VOC per gallon of coating, excluding water, for coatings that are air dried or forced warm air dried at temperatures up to ninety degrees Celsius (90°C) (one hundred ninety-four degrees Fahrenheit (194°F)), as delivered to the applicator(s) in Spray Paint Booth #1, identified as PB1.
- (b) Pursuant to 326 IAC 8-2-9(f), solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

#### D.1.2 Particulate [326 IAC 6-3-2(d)]

- (a) Particulate from the Paint Booths #1, #2 and #3, identified as PB1, PB2 & PB3, each, shall be controlled by a dry particulate filter and the Permittee shall operate the control device(s) in accordance with manufacturer's specifications.
- (b) If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:
- (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

- (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
- (c) If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

**D.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]**

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any associated control devices.

**Compliance Determination Requirements**

**D.1.4 Volatile Organic Compounds (VOC)[326 IAC 8-1-2] [326 IAC 8-1-4]**

Compliance with the VOC content contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

**Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

**D.1.5 Record Keeping Requirements**

- (a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in Condition D.1.1.
  - (1) The VOC content of each coating material and solvent used.
  - (2) The amount of coating material and solvent less water used on a monthly basis.
    - (A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
    - (B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS**

**Emissions Unit Description: [326 IAC 2-6.1-5(a)(1)]:** Metal Machining Operations

(a) One Brake Assembly and Brake Part manufacturing operation, including the following:

(2) Metal Machining Operations

(A) One (1) Lathe Machine M1800, identified as LM1, constructed in 2006, having a maximum throughput of twenty (20) metal automotive brake parts/hour or one hundred (100) pounds of metal parts/hour, with particulate emissions controlled by a portable dust collector, identified as baghouse BH5, and exhausting inside the building.

(B) One (1) Vertical Turret Lathe M1905, identified as LM2, constructed in 2006, having a maximum throughput of five (5) metal automotive brake parts/hour or four hundred twenty-five 425 pounds of metal parts/hour, with particulate emissions controlled by a portable dust collector, identified as baghouse BH5, and exhausting inside the building.

(C) One (1) Vertical Turret Lathe M1900, identified as LM3, constructed in 1981, having a maximum throughput of five (5) metal automotive brake parts/hour or two hundred fifty 250 pounds of metal parts/hour, with particulate emissions controlled by a portable dust collector, identified as baghouse BH5, and exhausting inside the building.

(D) One (1) Vertical Turret Lathe M1921, identified as LM4, constructed in 2006, having a maximum throughput of twelve (12) metal automotive brake parts/hour or one hundred forty-four (144) pounds of metal parts/hour, with particulate emissions controlled by a portable dust collector, identified as baghouse BH5, and exhausting inside the building.

(E) One (1) natural gas-fired Heat Treat Oven, identified as OV7, approved for construction in 2010, with a maximum heat input capacity of sixty hundredths (0.60) MMBtu/hr, uncontrolled and exhausting to the inside of the building;

(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 2-6.1-5(a)(1)]**

**D.2.1 Particulate [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the facilities listed in this condition shall not exceed the pound per hour limitations listed in the table below:

Emission Unit	Process Weight Rate		Particulate Emission Limit (lb/hour)
	(lbs/hr)	(tons/hr)	
Lathe Machine M1800 (LM1) controlled by baghouse (BH5)	100.0	0.050	0.551
Vertical Turret Lathe M1905 (LM2) controlled by baghouse (BH5)	250.0	0.125	1.018
Vertical Turret Lathe M1900 (LM3) controlled by baghouse (BH5)	425.0	0.213	1.452
Vertical Turret Lathe M1921 (LM4) controlled by baghouse (BH5)	144.0	0.072	0.703

These limitations were calculated as follows:

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

## Compliance Determination Requirements

### D.2.2 Particulate Control

---

- (a) In order to comply with Condition D.1.1, the baghouses for particulate control shall be in operation and control emissions from the metal machining operations at all times that any of the metal machining equipment is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

### SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

**Emissions Unit Description: [326 IAC 2-6.1-5(a)(1)]: Clutch Lining Manufacturing Operations**

- (a) Clutch lining manufacturing operation, including the following;
  - (1) Friction Material Closed/Compression Molding Operations
    - (A) One (1) Mixer, identified as M1, approved for construction in 2010, for the mixing of friction materials, having a maximum throughput capacity of two hundred fifty (250) lbs/hour, with particulate emissions controlled by baghouse (BH1), and exhausting outside the building through stack S-BH1;
    - (B) Eight (8) Clutch Lining Presses, identified as PR1 through PR8, for the forming of friction materials into clutch lining parts, approved for construction in 2010, electrically heated, having a combined maximum throughput capacity of thirty (30) lbs/hour, uncontrolled and exhausting inside the building;
    - (C) One (1) Pre-form Machine, identified as PM1, approved for construction in 2010, for the forming of friction materials into pre-form blocks, having a maximum throughput capacity of two hundred (200) lbs/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2;
    - (D) Two (2) Military Block Presses, identified as PR9 and PR10, approved for construction in 2010, for the forming of pre-form blocks into military blocks, electrically heated, having a combined maximum throughput capacity of two hundred (200) lbs/hour, uncontrolled and exhausting inside the building;
    - (E) Four (4) Cabinet Ovens, identified as OV3 through OV6, approved for construction in 2010, for the curing of clutch lining and military block parts, electrically heated, having a combined maximum throughput capacity of two hundred (200) lbs of molded parts/hour, uncontrolled and exhausting inside the building;
  - (2) Friction Materials Machining Operations
    - (A) One (1) Cutting Machine, identified as C1, approved for construction in 2010, for the sizing of molded parts, having a maximum throughput capacity of seventy-five (75) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2;
    - (B) One (1) Slitting Machine, identified as S1, approved for construction in 2010, for the shaping of molded parts, having a maximum throughput capacity of two hundred (200) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2; and
    - (C) One (1) Drill Machine, identified as D1, approved for construction in 2010, for the shaping of molded parts, having a maximum throughput capacity of two hundred (200) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2.

<p>(3) Friction Material Grinding and Finishing Operations</p> <p>(A) One (1) Sander, identified as S2, approved for construction in 2010, for the sizing of molded parts, having a maximum throughput capacity of seventy-five (75) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2;</p> <p>(B) One (1) Grinder, identified as G3, approved for construction in 2010, for the shaping of molded parts, having a maximum throughput capacity of two hundred (200) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2; and</p> <p>(C) One (1) Grinder, identified as G4, approved for construction in 2010, for the shaping of molded parts, having a maximum throughput capacity of two hundred (200) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2.</p> <p>(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)</p>
--

**Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]**

**D.3.1 Particulate [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the facilities listed in this condition shall not exceed the pound per hour limitations listed in the table below:

Emission Unit	Process Weight Rate		Particulate Emission Limit (lb/hour)
	(lbs/hr)	(tons/hr)	
Cutting Machine (C1) controlled by baghouse (BH2)	75.0	0.038	0.454
Slitting Machine (S1) controlled by baghouse (BH2)	200.0	0.100	0.877
Drill Machine (D1) controlled by baghouse (BH2)	200.0	0.100	0.877
Sander (S2) controlled by baghouse (BH2)	75.0	0.038	0.454
Grinder (G3) controlled by baghouse (BH2)	200.0	0.100	0.877
Grinder (G4) controlled by baghouse (BH2)	200.0	0.100	0.877

These limitations were calculated as follows:

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

**D.3.2 Preventive Maintenance Plan [326 IAC 1-6-3]**

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any associated control devices.

## Compliance Determination Requirements

### D.3.3 Particulate Control

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- (a) In order to comply with Condition D.1.1, the baghouse(s) for particulate control shall be in operation and control emissions from the friction material machining, grinding and finishing operations at all times that any of the friction material machining, grinding and/or finishing equipment is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

### D.3.4 Testing Requirements [326 IAC 2-6.1][326 IAC 2-4.1][326 IAC 8-1-6][326 IAC 2-1.1-11]

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Pursuant to Air-014-NPD (Approval and Validation of Alternate Emission Factors) and in order to verify the MSOP status of the source, in accordance with 326 IAC 2-6.1, the Hazardous Air Pollutant (HAP) and Volatile Organic Compound (VOC) potential to emit (PTE) of the Clutch Parts Manufacturing Line's Closed/Compression Molding operations shall be confirmed, as follows:

- (a) Within ninety (90) days after the issuance of the permit (#M105-28659-00013), the Permittee shall submit a copy of the September 18, 1997 test report and associated test data generated from testing conducted at Carlisle Motion Control Industries, Inc.'s South Hill facility, located at 1000 Cycle Lane in South Hill, Virginia, for PTE validation by IDEM.

The report and data 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, IN 46204-2251

- (1) If the alternate emission factors are determined to be valid and acceptable in determining the HAP and VOC PTE of the Clutch Parts Manufacturing Line's Closed/Compression Molding Operations, then the testing requirement, as defined in subsection (b) of this condition, will be satisfied.
  - (2) If the alternate emission factors are not determined to be valid and acceptable in determining the HAP and VOC PTE of the Clutch Parts Manufacturing Line's Closed/Compression Molding Operations, then the testing requirement, as defined in subsection (b) of this condition, shall be conducted.
- (b) Within one hundred eighty (180) days after the issuance of the permit (#M105-28659-00013), the Permittee shall conduct a test to determine the HAP and VOC PTE of the Clutch Parts Manufacturing Line's Closed/Compression Molding Operations utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing.

## SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description: [326 IAC 2-6.1-5(a)(1)]: Natural gas-fired Boilers

- (c) One (1) natural gas fired boiler, identified as B1, initially constructed in 1953 and a burner replacement in 1976, with a maximum heat input capacity of twelve and fifty-six hundredths (12.56) MMBtu per hour, uncontrolled and exhausting outside the building through stack S-B1.
- (d) One (1) natural gas fired boiler, identified as B2, initially constructed in 1953 and a burner replacement in 1976, with a maximum capacity of twelve and fifty-six hundredths (12.56) MMBtu per hour, uncontrolled and exhausting outside the building through stack S-B2.
- (f) One (1) natural gas-fired Hot Water Boiler, identified as HWB1, constructed in 1998, with a maximum heat input capacity of thirty-four hundredths (0.34) MMBtu/hr, uncontrolled and exhausting inside the building;

(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 2-7-5(1)]

#### D.4.1 Particulate [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3 (Particulate Limitations for Sources of Indirect Heating) the PM emissions from the two (2) natural gas-fired boilers, identified as B1 & B2, each, shall be limited to eight tenths (0.8) lbs/mmBtu heat input.

This limitation is based on the following equation:

$$Pt = \frac{C \times a \times h}{76.5 \times Q^{0.75} \times N^{0.25}}$$

where

$$C = 50 \text{ u/m}^3$$

Pt = emission rate limit (lbs/MMBtu)

Q = total source heat input capacity (MMBtu/hr) (25.13)

N = number of stacks (2.0)

a = plume rise factor (0.67)

h = stack height (ft) (38.0)

Pursuant to 326 IAC 6-2-3(d) (Particulate Emission Limitations for Sources of Indirect Heating: emission limitations for facilities specified in 326 IAC 6-2-1(c)), PM from boilers B1 and B2, shall in no case exceed eight tenths (0.8) pounds of particulate matter per million British thermal units heat input.

#### D.4.2 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from the one (1) thirty-four hundredths (0.34) MMBtu/hr natural gas-fired boiler (identified as HWB1) shall be limited to forty-seven hundredths (0.47) pounds per MMBtu heat input.

This limitation is based on the following equation:

$$Pt = 1.09/Q^{0.26}$$

Where: Pt = Pounds of Particulate Matter emitted per million  
Btu (lb/mmBtu) heat input; and

Q = Total source maximum operating capacity rating in  
million Btu per hour (mmBtu/hr) heat input (25.47).

#### D.4.3 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 boilers B1 and B2, and any associated control device(s).

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

### MINOR SOURCE OPERATING PERMIT (MSOP) CERTIFICATION

Source Name: Carlisle Industrial Brake & Friction  
Source Address: 1031 E Hillside Drive, Bloomington, Indiana 47401  
Mailing Address: 1031 E Hillside Drive, Bloomington, IN 47401  
MSOP No.: M105-28659-00013

**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**

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

<b>Company Name:</b>	Carlisle Industrial Brake & Friction
<b>Address:</b>	1031 E Hillside Drive
<b>City:</b>	Bloomington, Indiana 47401
<b>Phone #:</b>	812-334-8711
<b>MSOP #:</b>	M105-28659-00013

I hereby certify that Carlisle Industrial Brake & Friction is :  still in operation.  
 no longer in operation.  
I hereby certify that Carlisle Industrial Brake & Friction is :  in compliance with the requirements of MSOP M105-28659-00013.  
 not in compliance with the requirements MSOP M105-28659-00013.

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

<b>Noncompliance:</b>

### MALFUNCTION REPORT

#### INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY FAX NUMBER: (317) 233-6865

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?\_\_\_\_, 25 TONS/YEAR SULFUR DIOXIDE ?\_\_\_\_, 25 TONS/YEAR NITROGEN OXIDES?\_\_\_\_, 25 TONS/YEAR VOC ?\_\_\_\_, 25 TONS/YEAR HYDROGEN SULFIDE ?\_\_\_\_, 25 TONS/YEAR TOTAL REDUCED SULFUR ?\_\_\_\_, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?\_\_\_\_, 25 TONS/YEAR FLUORIDES ?\_\_\_\_, 100 TONS/YEAR CARBON MONOXIDE ?\_\_\_\_, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?\_\_\_\_, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?\_\_\_\_, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?\_\_\_\_, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?\_\_\_\_. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION \_\_\_\_\_.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC \_\_\_\_\_ OR, PERMIT CONDITION # \_\_\_\_\_ AND/OR PERMIT LIMIT OF \_\_\_\_\_

THIS INCIDENT MEETS THE DEFINITION OF "MALFUNCTION" AS LISTED ON REVERSE SIDE ?    Y        N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ?    Y        N

COMPANY: \_\_\_\_\_ PHONE NO. (    ) \_\_\_\_\_  
LOCATION: (CITY AND COUNTY) \_\_\_\_\_  
PERMIT NO. \_\_\_\_\_ AFS PLANT ID: \_\_\_\_\_ AFS POINT ID: \_\_\_\_\_ INSP: \_\_\_\_\_  
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: \_\_\_\_\_

DATE/TIME MALFUNCTION STARTED: \_\_\_\_/\_\_\_\_/20\_\_\_\_    \_\_\_\_\_ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: \_\_\_\_\_

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_/\_\_\_\_/20\_\_\_\_    \_\_\_\_\_ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: \_\_\_\_\_

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_  
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_  
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_  
INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

\*SEE PAGE 2

**Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.**

**326 IAC 1-6-1 Applicability of rule**

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

**326 IAC 1-2-39 "Malfunction" definition**

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

**\*Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

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Mail to: Permit Administration & Support Section  
Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

Carlisle Industrial Brake & Friction  
1031 E Hillside Drive  
Bloomington, Indiana 47401

Affidavit of Construction

I, \_\_\_\_\_, being duly sworn upon my oath, depose and say:  
(Name of the Authorized Representative)

1. I live in \_\_\_\_\_ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of \_\_\_\_\_ for \_\_\_\_\_  
(Title) (Company Name)
3. By virtue of my position with \_\_\_\_\_, I have personal  
(Company Name)  
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of \_\_\_\_\_.  
(Company Name)
4. I hereby certify that Carlisle Industrial Brake & Friction 1031 E Hillside Drive, Bloomington, Indiana 47401, completed construction of the motor vehicle parts and accessories, including brakes, brake parts, and clutch parts, manufacturing facility on \_\_\_\_\_ in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on **Reviewer: Insert date application received at IDEM** and as permitted pursuant to New Source Construction Permit and Minor Source Operating Permit No. M105-28659-00013, Plant ID No. 105-00013 issued on \_\_\_\_\_.
5. **Permittee, please cross out the following statement if it does not apply:** Additional (operations/facilities) were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature \_\_\_\_\_  
Date \_\_\_\_\_

STATE OF INDIANA)  
)SS

COUNTY OF \_\_\_\_\_ )

Subscribed and sworn to me, a notary public in and for \_\_\_\_\_ County and State of Indiana  
on this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_. My Commission expires: \_\_\_\_\_.

Signature \_\_\_\_\_  
Name \_\_\_\_\_ (typed or printed)

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

Addendum to the Technical Support Document (ATSD) for a  
for a New Source Review, New Source Construction and  
Minor Source Operating Permit (MSOP)

**Source Background and Description**

<b>Source Name:</b>	<b>Carlisle Industrial Brake &amp; Friction</b>
<b>Source Location:</b>	<b>1031 E Hillside Drive, Bloomington, IN 47401</b>
<b>County:</b>	<b>Monroe</b>
<b>SIC Code:</b>	<b>3714</b>
<b>Operation Permit No.:</b>	<b>105-28659-00013</b>
<b>Permit Reviewer:</b>	<b>Hannah L. Desrosiers</b>

On February 16, 2010, the Office of Air Quality (OAQ) had a notice published in Herald Times, Bloomington, Indiana, stating that Carlisle Industrial Brake & Friction had applied for a New Source Review, New Source Construction and Minor Source Operating Permit (MSOP) to operate their existing stationary motor vehicle parts and accessories, brakes and brake parts, manufacturing facility, and to construct and operate a new friction materials (clutch linings) manufacturing facility. The notice also stated that the OAQ proposed to issue a New Source Review, New Source Construction and Minor Source Operating Permit (MSOP) for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

**Comments and Responses**

On Thursday, March 04, 2010, Jon Akin, Project Engineer, ARCADIS U.S., Inc., submitted comments to IDEM, OAQ on the draft New Source Review, New Source Construction and Minor Source Operating Permit (MSOP) on the behalf of Carlisle Industrial Brake & Friction.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**. Unaffected permit conditions have been re-numbered and the Table of Contents updated, where applicable.

The emission calculations from TSD Appendix A have been revised to reflect the changes made to the permit, and are attached as Appendix A of this addendum.

**Comment 1:**

In review of the draft permit, it was discovered that a minor source of emissions at Carlisle Bloomington was unintentionally omitted from the application. Carlisle uses a bonding film in the Permafuse Oven (OV2) that is identified under condition A.2(a)(1)(G) of the permit. Each piece of film weighs six and seven tenths (6.7) grams, and a maximum of fifteen (15) pieces per hour of bonding film are fed through the Oven (OV2). Based upon these values, Carlisle can use up to twenty-two hundredths (0.22) pounds of the film material per hour. A MSDS for the film is included.

**Response to Comment 1:**

IDEM agrees with the recommended changes, since the uncontrolled potential VOC and HAP emissions from the use of the bonding film in the natural gas-fired Permafuse Oven, identified as OV2, are less than the Exemption threshold values of five (5) tons per year for VOCs, one (1) ton per

year of any single hazardous air pollutant (HAP), and two and one-half (2.5) tons per year of any combination of HAPs, as demonstrated in Appendix A of this TSD. Therefore, pursuant to 326 IAC 2-1.1-3(e)(1)(A), the source was not required to add the activity to their permit. This insignificant activity, having no rule applicability, is being added to the permit upon request of the source, for documentation purposes only. The permit has been revised as follows:

#### A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) One Brake Assembly and Brake Part manufacturing operation, including the following:
  - (1) Metal Surface Coating Operations, including the following;
    - \*\*\*
    - (G) One (1) natural gas-fired Permafuse Oven, identified as OV2, constructed in 2007, with a maximum heat input capacity of eighty hundredths (0.80) MMBtu/hr, **processing a maximum of fifteen (15.0) brake parts, or twenty-two hundredths (0.22) pounds of bonding film, per hour**, uncontrolled and exhausting outside the building through stack S-OV2.
    - \*\*\*

No other comments were received during Carlisle Industrial Brake & Friction's MSOP Renewal public comment period.

#### Additional Changes

IDEM, OAQ has decided to make additional revisions to the permit as described below, with deleted language as ~~strikeouts~~ and new language **bolded**.

- (a) Upon further review, IDEM has determined that, for clarification, Condition D.1.1, page 21 of 34 of the permit, be updated to include the affected emission unit identification number, as follows;

#### D.1.1 VOC Limit [326 IAC 8-2-9]

- (a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) emissions from any coatings delivered to each applicator shall not exceed three and five tenths (3.5) pounds of VOC per gallon of coating, excluding water, ~~as delivered to the applicator~~, for coatings that are air dried or forced warm air dried at temperatures up to ninety degrees Celsius (90°C) (one hundred ninety-four degrees Fahrenheit (194°F)), **as delivered to the applicator in Spray Paint Booth #1, identified as PB1.**

No other changes have been made to the permit.

#### IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Ms. Hannah Desrosiers 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) 234-5374 or toll free at 1-800-451-6027 extension 4-5374.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.idem.in.gov](http://www.idem.in.gov)

ATSD Appendix A: Revised Emissions Calculations  
Entire Source Emission Summary

Company Name: Carlisle Industrial Brake & Friction  
Address City IN Zip: 1031 East Hillside Drive, Bloomington, IN 47401  
Permit No.: 105-28659-00013  
Reviewer: Hannah L. Desrosiers  
Date Received: November 10, 2009

Uncontrolled Potential Emissions (tons/year)											
Category	Pollutant	Emissions Generating Activity									
		Brake Assembly & Brake Parts Manufacturing Line			NEW Clutch Parts Manufacturing Line			Natural Gas Combustion Units	Emergency Diesel Fire Pump	Paved Roads	TOTAL
		Surface Coating Operations	Shoe Cell Assembly Operations	Machining & Grinding Operations	Material Handling	Molding Operations	Machining & Grinding Operations				
Criteria Pollutants	PM	29.92	0.00	34.25	0.45	0	35.37	0.24	0.05	0.60	100.88
	PM10	29.92	0.00	3.43	0.21	0	3.54	0.98	0.05	0.12	38.23
	PM2.5	29.92	0.00	3.43	0.21	0	3.54	0.73	0.05	0.02	37.89
	SO2	0	0	0	0	0	0	0.08	0.05	0	0.13
	NOx	0	0	0	0	0	0	12.86	0.75	0	13.61
	VOC	8.68	<del>1.96</del> 0.04	0	0	4.13	0	0.71	0.06	0	<del>15.55</del> 13.62
	CO	0	0	0	0	0	0	10.80	0.16	0	10.96
Hazardous Air Pollutants	Acrylonitrile	0	0	0	0	0.04	0	0	0	0	0.04
	1,3-Butadiene	0	0	0	0	0.01	0	0	6.64E-06	0	0.01
	Acetaldehyde	0	0	0	0	0	0	0	1.30E-04	0	1.30E-04
	Acrolein	0	0	0	0	0	0	0	1.57E-05	0	1.57E-05
	Benzene	0	0	0	0	0	0	2.70E-04	1.58E-04	0	4.28E-04
	Dichlorobenzene	0	0	0	0	0	0	1.54E-04	0	0	1.54E-04
	Ethylbenzene	0.02	0	0	0	0	0	0	0	0	0.02
	Formaldehyde	0	<b>0.96</b>	0	0	0.01	0	9.64E-03	2.00E-04	0	<del>0.98</del> 0.02
	Hexane	0	0	0	0	0	0	0.23	0	0	0.23
	Methanol	0	0.02	0	0	0	0	0	0	0	0.02
	Methyl isobutyl ketone	0	1.51E-03	0	0	0	0	0	0	0	1.51E-03
	Napthalene	0.05	0	0	0	0	0	0	0	0	0.05
	Phenol	0	<b>0.96</b>	0	0	0.48	0	0	0	0	<del>1.45</del> 0.48
	Toluene	0	0	0	0	0	0	4.37E-04	6.94E-05	0	5.07E-04
	Total PAH HAPs	0	0	0	0	0	0	0	2.85E-05	0	2.85E-05
	Xylenes	0.25	0	0	0	0	0	0	4.84E-05	0	0.25
	Cadmium	0	0	0	0	0	0	1.41E-04	0	0	1.41E-04
	Chromium	0	0	4.11	0	0	0	1.80E-04	0	0	4.11
	Lead	0	0	0.24	0	0	0	6.43E-05	0	0	0.24
	Manganese	0	0	3.43	0	0	0	4.89E-05	0	0	3.43
Nickel	0	0	3.43	0	0	0	2.70E-04	0	0	3.43	
Totals		0.32	<del>1.95</del> 0.02	11.20	0	0.54	0	0.24	6.58E-04	0	<del>14.26</del> 12.33
										Worse Case HAP	4.11

Total emissions based on rated capacity at 8,760 hours/year.

Appendix A: Emissions Calculations  
Entire Source Emission Summary

Company Name: Carlisle Industrial Brake & Friction  
Address City IN Zip: 1031 East Hillside Drive, Bloomington, IN 47401  
Permit No.: 105-28659-00013  
Reviewer: Hannah L. Desrosiers  
Date Received: November 10, 2009

Controlled Potential Emissions (tons/year)											
Category	Pollutant	Emissions Generating Activity									
		Brake Manufacturing			Clutch Manufacturing			Natural Gas Combustion Units	Emergency Diesel Fire Pump	Paved Roads	TOTAL
		Surface Coating Operations	Shoe Cell Assembly Operations	Machining & Grinding Operations	Material Handling	Molding Operations	Machining & Grinding Operations				
Criteria Pollutants	PM	0.38	0.00	0.69	0.12	0	0.35	0.24	0.05	0.30	2.14
	PM10	0.38	0.00	0.07	0.04	0	0.04	0.98	0.05	0.06	1.61
	PM2.5	0.38	0.00	0.07	0.04	0	0.04	0.73	0.05	0.01	1.32
	SO2	0	0	0	0	0	0	0.08	0.05	0	0.13
	NOx	0	0	0	0	0	0	12.86	0.75	0	13.61
	VOC	8.68	<del>1.96</del> 0.04	0	0	4.13	0	0.71	0.06	0	<del>15.55</del> 13.62
	CO	0	0	0	0	0	0	10.80	0.16	0	10.96
Hazardous Air Pollutants	Acrylonitrile	0	0	0	0	0.04	0	0	0	0	0.04
	1,3-Butadiene	0	0	0	0	0.01	0	0	6.64E-06	0	0.01
	Acetaldehyde	0	0	0	0	0	0	0	1.30E-04	0	1.30E-04
	Acrolein	0	0	0	0	0	0	0	1.57E-05	0	1.57E-05
	Benzene	0	0	0	0	0	0	2.70E-04	1.58E-04	0	4.28E-04
	Dichlorobenzene	0	0	0	0	0	0	1.54E-04	0	0	1.54E-04
	Ethylbenzene	0.02	0	0	0	0	0	0	0	0	0.02
	Formaldehyde	0	<b>0.96</b>	0	0	0.01	0	9.64E-03	2.00E-04	0	<del>0.980</del> 0.02
	Hexane	0	0	0	0	0	0	0.23	0	0	0.23
	Methanol	0	0.02	0	0	0	0	0	0	0	0.02
	Methyl isobutyl ketone	0	1.51E-03	0	0	0	0	0	0	0	1.51E-03
	Napthalene	0.05	0	0	0	0	0	0	0	0	0.05
	Phenol	0	<b>0.96</b>	0	0	0.48	0	0	0	0	<del>1.450</del> 0.48
	Toluene	0	0	0	0	0	0	4.37E-04	6.94E-05	0	5.07E-04
	Total PAH HAPs	0	0	0	0	0	0	0	2.85E-05	0	2.85E-05
	Xylenes	0.25	0	0	0	0	0	0	4.84E-05	0	0.25
	Cadmium	0	0	0	0	0	0	1.41E-04	0	0	1.41E-04
	Chromium	0	0	0.08	0	0	0	1.80E-04	0	0	0.08
	Lead	0	0	4.80E-03	0	0	0	6.43E-05	0	0	4.86E-03
	Manganese	0	0	0.07	0	0	0	4.89E-05	0	0	0.07
Nickel	0	0	0.07	0	0	0	2.70E-04	0	0	0.07	
Totals		0.32	<del>1.950</del> 0.02	0.22	0	0.54	0.00	0.24	6.58E-04	0	<del>3.281</del> 3.35
										Worse Case HAP	1.450.48

Total emissions based on rated capacity at 8,760 hours/year.

**ATSD Appendix A: Revised Emissions Calculations**  
**Volitile Organic Compound (VOC) and Hazardous Air Pollutant (HAP) Emissions**  
**Brake Assembly & Brake Parts Manufacturing Line - Shoe Cell Assembly Operations - Permafuse Oven (OV2)**

Company Name: Carlisle Industrial Brake & Friction  
Address City IN Zip: 1031 East Hillside Drive, Bloomington, IN 47401  
Permit No.: 105-28659-00013  
Reviewer: Hannah L. Desrosiers  
Date Received: November 10, 2009

**Hazardous Air Pollutant (HAP) Emissions**

Material	Max Usage Rate * (lbs/hr)	Weight % Formaldehyde	Weight % Phenol	Formaldehyde Emissions (ton/yr)	Phenol Emissions (ton/yr)
Bonding Film	0.22	1.00	1.00	0.96	0.96
Total Single HAPs				0.96	0.96

<b>Total Combined HAPs</b>	<b>1.93</b>
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**Volitile Organic Compound (VOC) Emissions**

Material	Max Usage Rate * (lbs/hr)	Weight % VOC Compounds	Uncontrolled VOC Emission Rate (lbs/hr)	Uncontrolled VOC Emission Rate (tons/yr)
Bonding Film	0.22	2.00	0.44	1.93
Total VOCs			0.44	1.93

**METHODOLOGY**

PTE of Single HAP (tons/year) = Maximum Usage rate (lbs/hr) \* % HAP Content \* 8760 hrs/yr \* 1 ton/2000 lbs

Total Combined HAP (tons/year) = SUM (PTE of Single HAP (tons/year))

Weight % VOC = SUM (Weight % Formaldehyde + Weight % Phenol)

PTE of VOC (lbs/hr) = Maximum Usage rate (lbs/hr) \* Weight % VOC

PTE of VOC (tons/yr) = PTE of VOC (lbs/hr) \* (8760 hours/1 year) \*(1 ton/2000 lbs)

**NOTES**

Particulate emissions from the Brake Assembly & Brake Parts Manufacturing Line - Shoe Cell Assembly Operations - Permafuse Oven (OV2) operations are negligible.

Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential particulate emissions (PM) of less than five hundred fifty-one thousandths (0.551) pounds per hour are exempt from the requirements of 326 IAC 6-3.

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

Technical Support Document (TSD) for a New Source Review,  
New Source Construction and Minor Source Operating Permit (MSOP)

**Source Description and Location**

**Source Name:** Carlisle Industrial Brake & Friction  
**Source Location:** 1031 E Hillside Drive, Bloomington, IN 47401  
**County:** Monroe  
**SIC Code:** 3714  
**Operation Permit No.:** 105-28659-00013  
**Permit Reviewer:** Hannah L. Desrosiers

On November 10, 2009, the Office of Air Quality (OAQ) received an application from Carlisle Industrial Brake & Friction related to the operation of a stationary motor vehicle parts and accessories, including brake assemblies and brake parts, manufacturing facility, and the construction and operation of a new friction materials (clutch linings) manufacturing operation.

**Existing Approvals**

There have been no previous approvals issued to this source.

**County Attainment Status**

The source is located in Monroe County. The following attainment status designations are applicable to Monroe County:

Pollutant	Designation
O <sub>3</sub>	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. <sup>1</sup>
PM10	Unclassifiable effective November 15, 1990.
PM2.5	Unclassifiable or attainment effective April 5, 2005
SO <sub>2</sub>	Better than national standards.
NO <sub>2</sub>	Cannot be classified or better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
Pb	Not designated.
<sup>1</sup> Unclassifiable or attainment, effective October 18, 2000, for the 1-hour ozone standard, which was revoked effective June 15, 2005.	

- (a) **Ozone Standards**  
Volatile organic compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) 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<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. Monroe County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM2.5**  
Monroe County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15, 2008. Indiana has three years from the publication of these

rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

- (c) Other Criteria Pollutants  
Monroe 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**

- (a) The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-6.1 (Minor Source Operating Permits) applicability.
- (b) Since 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, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

#### **Background and Description of New Source Construction**

The Office of Air Quality (OAQ) has reviewed an application, submitted by Carlisle Industrial Brake & Friction on November 10, 2009, relating to the operation of a stationary motor vehicle parts and accessories, including brakes and brake parts, manufacturing facility, and the construction of a new friction material, clutch linings, manufacturing operation.

The following is a list of the new emission unit(s) and pollution control device(s):

- (a) Clutch lining manufacturing operation, including the following;
- (1) Friction Materials Closed/Compression Molding Operations
- (A) One (1) Mixer, identified as M1, approved for construction in 2010, for the mixing of friction materials, having a maximum throughput capacity of two hundred fifty (250) lbs/hour, with particulate emissions controlled by baghouse (BH1), and exhausting outside the building through stack S-BH1;
- (B) Eight (8) Clutch Lining Presses, identified as PR1 through PR8, for the forming of friction materials into clutch lining parts, approved for construction in 2010, electrically heated, having a combined maximum throughput capacity of thirty (30) lbs/hour, uncontrolled and exhausting inside the building;
- (C) One (1) Pre-form Machine, identified as PM1, approved for construction in 2010, for the forming of friction materials into pre-form blocks, having a maximum throughput capacity of two hundred (200) lbs/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2;
- (D) Two (2) Military Block Presses, identified as PR9 and PR10, approved for construction in 2010, for the forming of pre-form blocks into military blocks, electrically heated, having a combined maximum throughput capacity of two hundred (200) lbs/hour, uncontrolled and exhausting inside the building;
- (E) Four (4) Cabinet Ovens, identified as OV3 through OV6, approved for construction in 2010, for the curing of clutch lining and military block parts, electrically heated, having a combined maximum throughput capacity of two hundred (200) lbs of molded parts/hour, uncontrolled and exhausting inside the building;

- (2) Friction Materials Machining Operations
  - (A) One (1) Cutting Machine, identified as C1, approved for construction in 2010, for the sizing of molded parts, having a maximum throughput capacity of seventy-five (75) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2;
  - (B) One (1) Slitting Machine, identified as S1, approved for construction in 2010, for the shaping of molded parts, having a maximum throughput capacity of two hundred (200) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2; and
  - (C) One (1) Drill Machine, identified as D1, approved for construction in 2010, for the shaping of molded parts, having a maximum throughput capacity of two hundred (200) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2.
- (3) Friction Materials Grinding and Finishing Operations
  - (A) One (1) Sander, identified as S2, approved for construction in 2010, for the sizing of molded parts, having a maximum throughput capacity of seventy-five (75) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2;
  - (B) One (1) Grinder, identified as G3, approved for construction in 2010, for the shaping of molded parts, having a maximum throughput capacity of two hundred (200) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2; and
  - (C) One (1) Grinder, identified as G4, approved for construction in 2010, for the shaping of molded parts, having a maximum throughput capacity of two hundred (200) lbs of molded parts/hour, with particulate emissions controlled by baghouse (BH2), and exhausting outside the building through stack S-BH2.

The following is a list of existing emission unit(s) and pollution control device(s):

- (a) One (1) natural gas-fired Hot Water Boiler, identified as HWB1, constructed in 1998, with a maximum heat input capacity of thirty-four hundredths (0.34) MMBtu/hr, uncontrolled and exhausting inside the building;
- (b) Maintenance activities, as defined in 326 IAC 2-1.1-3(e)(34), including:
  - (1) Repair and maintenance of paved and unpaved roads, including paving or sealing, or both, of parking lots and roadways.
  - (2) Painting, including interior and exterior painting of buildings, and solvent use excluding degreasing operations utilizing halogenated organic solvents.
  - (3) Brazing, soldering, or welding operations and associated equipment; including: One (1) Welding Booth with Three (3) MIG Welders, One (1) TIG Welder, Two (2) Stick Welders, One (1) Cutting Torch, and One (1) Plasma Cutter
  - (4) Blast-cleaning equipment using water as the suspension agent and associated equipment.
  - (5) Lubrication, including:

- (A) hand-held spray can lubrication;
  - (B) dipping metal parts into lubricating oil; or
  - (C) manual or automated addition of cutting oil in machining operations.
- (c) Four (4) Horizontal Mills, Four (4) Lathes, Two (2) CNC Machines, Two (2) Table Saws, and Five (5) Bench Grinders used for maintenance activities, constructed in 1981, all controlled by an area dust collector (MicroAir MX 3500, gas flow rate = 3,500cfm) and exhausting inside the building; and
- (d) Activities performed using hand-held equipment, as defined in 326 IAC 2-1.1-3(e)(35), including:
- (1) Cutting, excluding cutting torches.
  - (2) Grinding.
  - (3) Machining wood, metal, or plastic.
  - (4) Surface grinding.
  - (5) Turning wood, metal, or plastic.
- (e) Storage equipment and activities, as defined in 326 IAC 2-1.1-3(e)(39), including pressurized storage tanks and associated piping for the following:
- (1) Acetylene.
  - (2) Liquid natural gas (LNG) (propane).
- (f) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (g) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings;
- (h) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (i) One (1) Test Lab Facility, as defined in 326 IAC 2-1.1-3(e)(2), including the following;
- (j) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

<b>Unpermitted Emission Units and Pollution Control Equipment</b>
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The source consists of the following unpermitted emission unit(s):

- (a) One Brake Assembly and Brake Part manufacturing operation, including the following:
- (1) Metal Surface Coating Operations, including the following:
    - (A) One (1) Spray Paint Booth, identified as PB1, constructed in 1992, using air atomization to spray coatings on metal automotive brake assemblies and actuator assemblies, with a maximum application rate of thirty-three hundredths (0.33) gal/hr, equipped with dry filters for particulate control, and exhausting outside the building through stack S-PB1;

- (B) One (1) Spray Paint Booth, identified as PB2, constructed in 1992, using air atomization to spray coatings on metal automotive brake assemblies, with a maximum application rate of fifty hundredths (0.50) gal/hr, equipped with dry filters for particulate control, and exhausting outside the building through stack S-PB2;
  - (C) One (1) Spray Paint Booth, identified as PB3, constructed in 1992, using air atomization to spray coatings on metal automotive brake assemblies, with a maximum application rate of fifty hundredths (0.50) gal/hr, equipped with dry filters for particulate control, and exhausting outside the building through stack S-PB3;
  - (D) One (1) natural gas-fired Aquamaster CM 3600 Parts Washer/Conveyorized degreaser, identified as PW1, constructed in 2007, with a maximum throughput capacity of ninety (90) parts/hr, consisting of one (1) twenty-seven hundredths (0.27) MMBtu/hr Pre-Wash Burner, one (1) seventy hundredths (0.70) MMBtu/hr Dip Stage Burner, one (1) twenty-seven hundredths (0.27) MMBtu/hr Rinse Stage Burner, and one (1) twenty-five hundredths (0.25) MMBtu/hr Blow-off Stage Burner, using a water-based VOC and HAP free alkaline solvent, uncontrolled and exhausting to the outside through stacks S-PW1A, S-PW1B, and S-PW1C.
  - (E) Seven (7) Parts Washers/cold cleaner degreasers, each using a water-based alkaline solvent, uncontrolled and exhausting to the inside of the building. No VOC or HAP emissions are anticipated from the solvent usage in these units. Including the following:
    - (i) Four (4) Parts Washers/cold cleaner degreasers, identified as PW2 through PW4 and PW6, each constructed in 1993, with a maximum solvent replacement volume of six hundredths (0.06) gal/day;
    - (ii) One (1) Parts Washer/cold cleaner degreaser, identified as PW5, constructed in 1988, with a maximum solvent replacement volume of six hundredths (0.06) gal/day; and
    - (iii) Two (2) Parts Washers/cold cleaner degreasers, identified as PW7 and PW8, each constructed in 2009, with a maximum replacement volume of six ten hundredths (0.16) gal/day.
  - (F) One (1) natural gas-fired Paint Drying Oven, identified as OV1, constructed in 1992, with a maximum heat input capacity of one (1.00) MMBtu/hr, uncontrolled and exhausting outside the building through stack S-OV1;
  - (G) One (1) natural gas-fired Permafuse Oven, identified as OV2, constructed in 2007, with a maximum heat input capacity of eighty hundredths (0.80) MMBtu/hr, uncontrolled and exhausting to the inside of the building;
- (2) Metal Machining Operations
- (A) One (1) Lathe Machine M1800, identified as LM1, constructed in 2006, having a maximum throughput of twenty (20) metal automotive brake parts/hour or one hundred (100) pounds of metal parts/hour, with particulate emissions controlled by a portable dust collector, identified as baghouse BH5, and exhausting inside the building.
  - (B) One (1) Vertical Turret Lathe M1905, identified as LM2, constructed in 2006, having a maximum throughput of five (5) metal automotive brake parts/hour or four hundred twenty-five (425) pounds of metal parts/hour, with particulate emissions controlled by a portable dust collector, identified as baghouse BH5, and exhausting inside the building.

- (C) One (1) Vertical Turret Lathe M1900, identified as LM3, constructed in 1981, having a maximum throughput of five (5) metal automotive brake parts/hour or two hundred fifty (250) pounds of metal parts/hour, with particulate emissions controlled by a portable dust collector, identified as baghouse BH5, and exhausting inside the building.
  - (D) One (1) Vertical Turret Lathe M1921, identified as LM4, constructed in 2006, having a maximum throughput of twelve (12) metal automotive brake parts/hour or one hundred forty-four (144) pounds of metal parts/hour, with particulate emissions controlled by a portable dust collector, identified as baghouse BH5, and exhausting inside the building.
- (3) Metal Grinding and Finishing Operations
- (A) One (1) Grinder M1796, identified as G1, constructed in 2007, for the finishing of metal brake parts, having a maximum throughput of eight (8) parts/hour or five tenths (0.5) lbs/hour, with particulate emissions controlled by baghouse (BH3), and exhausting inside the building; and
  - (B) One (1) Grinder M1797, identified as G2, constructed in 2007, having a maximum throughput of twenty (20) parts/hour or five tenths (0.5) lbs/hour, with particulate emissions controlled by baghouse (BH4), and exhausting inside the building.
- (b) One (1) natural gas fired boiler, identified as B1, initially constructed in 1953 and a burner replacement in 1976, with a maximum heat input capacity of twelve and fifty-six hundredths (12.56) MMBtu per hour, uncontrolled and exhausting outside the building through stack S-B1.
  - (c) One (1) natural gas fired boiler, identified as B2, initially constructed in 1953 and a burner replacement in 1976, with a maximum capacity of twelve and fifty-six hundredths (12.56) MMBtu per hour, uncontrolled and exhausting outside the building through stack S-B2.
  - (d) One (1) Emergency Diesel Fire Pump Engine, identified as FP1, constructed in 1981, with a maximum power output rating of ninety-seven (97.0) hp, uncontrolled and exhausting outside the building.
  - (e) One (1) natural gas-fired Heat Treat Oven used for maintenance and R&D, identified as OV7, approved for construction in 2010, with a maximum heat input capacity of sixty hundredths (0.60) MMBtu/hr, uncontrolled and exhausting outside the building through stack S-HT1;

#### Enforcement Issues

IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit rules.

#### Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

- (1) The diesel powered emergency generator's potential to emit is based on an operating time of five hundred (500) hours per year, as set forth in the September 6, 1995 memorandum from John S. Seitz of US EPA on the subject of "Calculating Potential to Emit for Emergency Generators". According to the memo, an emergency generator's sole function is to provide back-up power when power from the local utility is interrupted and the only circumstances under which an emergency generator would operate when utility power is available are during operator training or brief maintenance checks.

- (2) Particulate Emissions (PM) from the Brakes & Brake Parts Manufacturing Line's Machining and Grinding Operations were characterized using the EPA WebFIRE PM and PM10 emission factors for Grey Iron Foundries - Grinding/Cleaning (SCC#30400340) to form a conservative estimate.

Note: Hazardous Air Pollutant (HAPs) emissions from the Brake Assembly & Brake Parts Manufacturing Line's Machining and Grinding Operations were calculated using the 'worst-case' percentage of Metal HAPS based on MSDSs submitted by the source.

- (3) No AP 42 emission factors exist for the loading and unloading of friction materials into the mixer, therefore, particulate emissions (PM) from the NEW Clutch Parts Manufacturing Line's Material Handling operations were characterized using the EPA WebFIRE PM and PM10 emission factors for Mineral Products, Concrete Batching, Mixer loading of cement/sand/aggregates (SCC 3-05-011-09).

IDEM has determined that these emission factors will provide a suitably conservative estimate, because the mixing performed at this source is a batch process while the emission factors were developed for a continuous operation. Additionally, since this unit exhausts inside the building, and the data indicates that the uncontrolled potential PM emissions are much less than the 326 IAC 6-3 allowable emissions for this unit, even including a margin of error equal to 10x the value of the alternate emission factor, its use would not result in a significant increase in PTE for this unit and would not affect the permitting level for this source. Therefore, the alternative emission factors will be allowed, and testing will not be required to confirm their validity.

- (4) No AP 42 emission factors exist for the mixing of friction materials, therefore, particulate emissions (PM) from the NEW Clutch Parts Manufacturing Line's Material Mixing operations were characterized using the EPA WebFIRE PM and PM10 emission factors for Fiberglass Manufacturing - Raw material: Mixing/Weighing (SCC 30501223).

IDEM has determined that these emission factors will provide a suitably conservative estimate, because the mixing performed at this source is a batch process while the emission factors were developed for a continuous operation. Additionally, the data indicates that the uncontrolled potential PM emissions are much less than the 326 IAC 6-3 allowable emissions for this unit, even including a margin of error equal to 10x the value of the alternate emission factor, its use would not result in a significant increase in PTE for this unit and would not affect the permitting level for this source. Finally, this unit is controlled by a baghouse, installed to comply with OSHA standards for employee health and safety, therefore, these alternative emission factors will be allowed, and testing will not be required to confirm their validity.

- (5) No AP 42 emission factor exists for the machining and grinding of friction materials, therefore, particulate emissions (PM) from the NEW Clutch Parts Manufacturing Line's Machining and Grinding Operations were characterized using the EPA WebFIRE PM and PM10 emission factors for Grey Iron Foundries - Grinding/Cleaning (SCC#30400340).

IDEM has determined that these emission factors will provide a suitably conservative estimate, because the grinding and cleaning of grey iron is an inherently dirty process and provides the worst-case scenario to any other process listed in AP 42. Additionally, the data indicate that the controlled potential PM emissions are much less than the 326 IAC 6-3 allowable emissions for this unit, and in fact, a control efficiency of only 50% would be required to comply with the 6-3 limits. Therefore, the alternative emission factors will be allowed, and testing will not be required to confirm their validity.

Requirements for the source to operate and maintain the control device at all times that any of the friction materials machining and grinding equipment is in operation, will be added to the permit to ensure compliance with the 326 IAC 6-3 limits.

- (6) No AP 42 emission factors exist for Closed/Compression Molding Operations; therefore, Hazardous Air Pollutant (HAP) and Volatile Organic Compound (VOC) Emissions from the NEW Clutch Parts Manufacturing Line's Closed/Compression Molding operations were characterized using emission factors developed for a similar operation installed at the source's heavy-duty truck brake lining manufacturing facility located in South Hill, Virginia.

The site-specific emission factors used for estimating the emission rates of VOC, phenol, formaldehyde, butadiene and acrylonitrile from the closed/compression molding presses were taken from a Virginia Department of Environmental Quality (Virginia DEQ) memorandum from Mr. Matthew Biesterveld of the South Central Regional Office, dated December 15, 2004. The data used in that memo were taken from a test report generated on September 18, 1997.

IDEM has determined that the validity of the alternate emission factors must be confirmed for use in the closed/compression molding operations. Therefore, IDEM has requested that copy of the September 18, 1997 test report and associated test data generated from testing conducted at Carlisle Motion Control Industries, Inc.'s South Hill facility, located at 1000 Cycle Lane in South Hill, Virginia, be submitted for validation. If the data is determined to be valid for HAP and VOC PTE calculations from the Clutch Parts Manufacturing Line's Closed/Compression Molding Operations, then testing will not be required. However, if the data is determined not to be acceptable for PTE calculations, then the source shall conduct a test utilizing methods as approved by the Commissioner.

**Permit Level Determination – MSOP**

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

<b>Pollutant</b>	<b>Potential To Emit (tons/year)</b>
PM	100.88
PM10 <sup>(1)</sup>	38.23
PM2.5	37.89
SO2	0.13
NOx	13.61
VOC	13.62
CO	10.69

<sup>(1)</sup> Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

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<b>HAPs</b>	<b>Potential To Emit (tons/year)</b>
Chromium	4.11
Manganese	3.43
Nickel	3.43
Phenol	0.48
Xylenes	0.25
Lead	0.24
Hexane	0.23
Napthalene	0.05
Acrylonitrile	0.04
Ethylbenzene	0.02
Methanol	0.02
1,3-Butadiene	0.01
Formaldehyde	0.01
Combined Insignificant HAPs	2.91E-03
<b>TOTAL HAPs</b>	<b>12.33</b>

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of PM, PM10, PM2.5, and VOC are each less than one hundred (100) tons per year, but greater than or equal to twenty-five (25) tons per year. The PTE of all other regulated criteria pollutants are less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. A Minor Source Operating Permit (MSOP) and New Source Review will be issued.
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

**PTE of the Entire Source After Issuance of the MSOP**

The table below summarizes the potential to emit of the entire source after issuance of this MSOP, reflecting all limits, of the emission units.

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Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of MSOP (tons/year)								
	PM	PM10*	PM2.5	SO <sub>2</sub>	NOx	VOC	CO	Total HAPs	Worst Single HAP
Brake Assembly & Brake Parts Manufacturing Line									
Surface Coating Operations									
Paint Booth #1 (PB1)	7.56	7.56	7.56	0	0	5.09	0	0.24	0.017 (xylene)
Paint Booth #2 (PB2)	11.18	11.18	11.18	0	0	1.79	0	0.04	0.04 (xylene)
Paint Booth #3 (PB3)	11.18	11.18	11.18	0	0	1.79	0	0.04	0.04 (xylene)
Shoe Cell Assembly	0	0	0	0	0	0.04	0	0.02	0.02 (methanol)
Machining & Grinding Operations <sup>(1)</sup>	16.31	3.43	3.43	0	0	0	0	11.20	4.11 (chromium)
NEW Clutch Parts Manufacturing Line									
Material Handling	0.45	0.21	0.21	0	0	0	0	0	0
Molding Operations	0	0	0	0	0	4.13	0	0.54	0.48 (phenol)
Machining & Grinding Operations <sup>(1)</sup>	19.34	3.54	3.54	0	0	0	0	0	0
Natural Gas Combustion	0.24	0.98	0.73	0.08	12.86	0.71	10.80	0.24	0.23 (hexane)
Emergency Diesel Fire Pump	0.05	0.05	0.05	0.05	0.75	0.06	0.16	negl.	negl.
Fugitive Emissions (Paved Roads)	0.60	0.12	0.02	0	0	0	0	0	0
<b>Total PTE of Entire Source</b>	<b>66.91</b>	<b>38.23</b>	<b>37.89</b>	<b>0.13</b>	<b>13.61</b>	<b>13.62</b>	<b>10.96</b>	<b>12.33</b>	<b>4.11 (chromium)</b>
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	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".									
<sup>(1)</sup> The PTE PM specified is based on the allowable PM emissions rate under 326 IAC 6-3-2 (Process Weight Rate Rule). See State Rule applicability for details.									
Note: The HAP emissions from the Machining & Grinding operations are reported as uncontrolled for the purposes of determining potential emissions and Permitting level; however, Metal HAPs are particulate in nature and can be controlled using a control device. Therefore, since a control device is required for this unit pursuant to 326 IAC 6-3, the controlled PTE Metal HAPs is only 0.22 tons/yr.									

**Federal Rule Applicability Determination**

**New Source Performance Standards (NSPS)**

- (a) The requirements of the New Source Performance Standards for Fossil-Fuel-Fired Steam Generators (326 IAC 12, 40 CFR 60, Subpart D) are not included in this permit for the two (2) natural gas-fired boilers because they each have a heat input capacity less than two hundred fifty (250) MMBtu/hour.

- (b) The requirements of the New Source Performance Standards for Electric Utility Steam Generating Units (326 IAC 12, 40 CFR 60, Subpart Da) are not included in this permit for the two (2) natural gas-fired boilers because they are not electric utility steam generating units, as defined in § 60.41 Da.
- (c) The requirements of the New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units (326 IAC 12, 40 CFR 60, Subpart Db) are not included in this permit for the two (2) natural gas-fired boilers because they each have a heat input capacity less than one hundred (100) MMBtu/hour.
- (d) The requirements of the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units (326 IAC 12, 40 CFR 60, Subpart Dc) are not included in this permit for the two (2) natural gas-fired boilers because they were each constructed/reconstructed prior to the rule applicability date of June 9, 1989.
- (e) 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, since the Emergency Diesel Fire Pump Engine, identified as FP1, was constructed before the rule applicability date of July 1, 2006.
- (f) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (a) The requirements of 40 CFR 63, Subpart T (63.460 through 63.470), NESHAP for Halogenated Solvent Cleaning and 326 IAC 20-6, are not included in this revision because this operation does not use a degreasing solvent that contains any of the halogenated compounds listed in 40 CFR 63.460(a).
- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Group IV Polymers and Resins, 40 CFR 63, Subpart JJJ (3J)(326 IAC 20-21), are not included in the permit, since this source is not a major source of HAPs, and does not manufacture thermoplastic products, as defined in §63.1312.
- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Manufacture of Amino/Phenolic Resins, 40 CFR 63, Subpart OOO (3O)(326 IAC 20-58), are not included in the permit, since this source is not a major source of HAPs, and does not produce amino/phenolic resins, as defined in §63.1402.
- (d) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart MMMM (4M), Surface Coating of Miscellaneous Metal Parts and Products (40 CFR Part 63.3880 - 63.3981), because this source is not a major source of HAPs as defined in 40 CFR 63.2.
- (e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Reinforced Plastic Composites Production, 40 CFR 63, Subpart WWWW (4W) (326 IAC 20-56), are not included in the permit, since this source is not a major source of HAPs.
- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63, Subpart ZZZZ (4Z) (326 IAC 20-82), are not included in the permit, since this source is not a major source of HAPs.
- (g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Friction Materials Manufacturing Facilities, 40 CFR 63, Subpart QQQQ (5Q) (326 IAC 20-68), are not included in the permit, since this source is not a major source of HAPs.

- (h) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR 63, Subpart HHHHHH (6H), are not included in the permit, because although this source uses spray application to coat metal brake assemblies and brake parts, the coatings used do not contain compounds of cadmium (Cd), chromium (Cr), lead (Pb), manganese (Mn), or nickel (Ni). Additionally, this source does not perform autobody refinishing operations, or paint stripping operations involving the use of chemical strippers containing methylene chloride (MeCl) in the paint removal processes.
- (i) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Acrylic and Modacrylic Fibers Production Area Sources, 40 CFR 63, Subpart LLLLLL (6L) (326 IAC 20), are not included in the permit, since this source does not produce acrylic or modacrylic fibers, as defined in §63.11398.
- (j) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Nine Metal Fabrication and Finishing Source Categories, 40 CFR 63, Subpart XXXXXX (6X) (326 IAC 20), are not included in the permit, because although this existing source manufactures metal brake assemblies and brake parts, it is not primarily engaged in the operations in one of the nine metal fabrication and finishing source categories, as defined in 40 CFR 63.11514 and 63.11522.
- (k) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR Part 63, 326 IAC 14, and 326 IAC 20) included in the permit.

#### Compliance Assurance Monitoring (CAM)

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

<b>State Rule Applicability Determination</b>
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The following state rules are applicable to the source:

#### *Entire Source:*

- (a) 326 IAC 2-6.1 (Minor Source Operating Permits (MSOP))  
MSOP applicability is discussed under the Permit Level Determination – MSOP section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))  
This source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit of all attainment regulated pollutants are less than two hundred fifty (250) tons per year, and this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (c) 326 IAC 2-3 (Emission Offset)  
Monroe County has been classified as attainment or unclassifiable in Indiana for all criteria pollutants. Additionally, this existing stationary motor vehicle parts and accessories, including brake assemblies, brake parts, and friction materials (clutch linings) manufacturing source is not considered a major source because the potential emissions for all criteria pollutants are less than the Title V Thresholds. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) do not apply to this source, and the requirements are not included in the permit.
- (d) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))  
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.

- (e) 326 IAC 2-6 (Emission Reporting)  
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than five (5) tons per year. Therefore, 326 IAC 2-6 does not apply.
- (f) 326 IAC 5-1 (Opacity Limitations)  
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (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.
- (g) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)  
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (h) 326 IAC 8-1-6 (New facilities; General reduction requirements)  
The potential VOC emissions from each of the emission units at this source are less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 do not apply to any of the emission units at this source and are not included in the permit.
- (i) 326 IAC 12 (New Source Performance Standards)  
See Federal Rule Applicability Section of this TSD.
- (j) 326 IAC 20 (Hazardous Air Pollutants)  
See Federal Rule Applicability Section of this TSD.

*Surface Coating Operations:*

- (a) 326 IAC 6-3-2(d) (Particulate Emission Limitations for Manufacturing Processes)  
Particulate from the surface coating operations, including Paint Booths #1, #2, and #3 (PB1-PB3), shall be controlled by a dry particulate filter, waterwash, or an equivalent control device, and the Permittee shall operate the control device in accordance with manufacturer's specifications.
- (1) If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:
    - (A) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
    - (B) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

(b) 326 IAC 8-1-6 (New Facilities: General Reduction Requirements)

- (1) The surface coating operations conducted at this source, in Paint Booths #1, #2, and #3 (PB1-PB3), are otherwise regulated by the requirements of 326 IAC 8-2-9 because the automotive brake assemblies and brake parts being surface coated are metal. Therefore, the requirements of 326 IAC 8-1-6 do not apply to Paint Booths #1-3 (PB1-PB3), and are not included in the permit.
- (2) The potential to emit VOCs from the cleanup solvent usage in Paint Booths #1, #2, and #3 (PB1-PB3), is less than twenty-five (25) tons per year, therefore the requirements of 326 IAC 8-1-6 do not apply to the cleanup solvent usage in PB1, PB2 and PB3, and are not included in the permit.

(c) 326 IAC 8-2-9 (Miscellaneous Metal Coating)

- (1) The surface coating operation conducted in Paint Booth #1 (PB1), constructed after the rule applicability date of July 1, 1991, applies coatings to metal automotive brake assemblies and brake parts, Standard Industrial Classification (SIC) Code major group #37 and has potential VOC emissions greater than fifteen (15) lbs/day, therefore, the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating) apply to PB1, and are included in the permit.

- (A) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) emissions from any coatings delivered to each applicator shall not exceed three and five tenths (3.5) pounds of VOC per gallon of coating, less water, for coatings that are air dried or forced warm air dried at temperatures up to ninety degrees Celsius (90°C) (one hundred ninety-four degrees Fahrenheit (194°F)).

Based on the MSDS submitted by the source and calculations made, the PB1 spray coating operation will be able to comply with this requirement.

See Appendix A for detailed calculations.

- (B) Pursuant to 326 IAC 8-2-9(f), solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.
- (2) The surface coating operations conducted in Paint Booths #2 and #3 (PB2 & PB3), although constructed after the rule applicability date of July 1, 1991, and applying coatings to metal automotive brake assemblies and brake parts, Standard Industrial Classification (SIC) Code major group #37, each have potential and actual VOC emissions of less than fifteen (15) lbs/day. Therefore, the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating) do not apply to either of Paint Booths #2 or #3, and are not included in the permit.

See Appendix A, for the detailed calculations.

- (d) There are no other 326 IAC 8 Rules that are applicable to the surface coating operations.

*Solvent Usage:*

(a) 326 IAC 8-1-6 (New Facilities: General Reduction Requirements)

- (1) The uncontrolled potential VOC emissions from the solvent usage in the surface coating operations, including Paint Booths #1, #2 and #3 (PB1, PB2, & PB3) are less than twenty-five (25) tons per year, combined, therefore, the requirements of 326 IAC 8-1-6 do not apply to the solvent usage in the surface coating operations and are not included in the permit.

- (2) The uncontrolled potential VOC emissions from the Bond Prep Solvent usage in the Shoe Cell Assembly process are less than twenty-five (25) tons per year, therefore, the requirements of 326 IAC 8-1-6 do not apply to the Bond Prep Solvent usage in the Shoe Cell Assembly process and are not included in the permit.
- (3) The uncontrolled potential VOC emissions from the solvent usage in the closed/compression molding operations process are less than twenty-five (25) tons per year, therefore, the requirements of 326 IAC 8-1-6 do not apply to the solvent usage in the closed/compression molding operations process and are not included in the permit.

See Appendix A, for the detailed calculations.

(b) 326 IAC 8-3 (Organic Solvent Degreasing Operations)

The one (1) Aqua Master Parts Washer (PW1) constructed in 2007, three (3) Kleeferlo 90 gallon parts washers (PW2-PW4) constructed in 1993, one (1) Rotojet 90 gallon parts washer (PW5) constructed in 1993, one (1) Kemac 90 gallon parts washer (PW6) constructed in 1988, and two (2) Kleeferlo 190 gallon parts washers (PW2-PW4) constructed in 2009, each, utilize aqueous solutions containing less than or equal to one percent (1%) by weight of VOCs, excluding HAPs, as defined under Section 112(b) of the Clean Air Act. Therefore, pursuant to 326 IAC 2-1.1-3(e)(13)(D) (Exemptions for Water Based Activities), the requirements of 326 IAC 8-3 do not apply to these facilities and are not included in the permit.

- (c) There are no other 326 IAC 8 Rules that apply to the solvent usage at this source

*Metal Machining Operations*

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

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in the metal machining operations shall not exceed the corresponding pound per hour limitations listed in the table below:

Emission Unit	Process Weight Rate		Uncontrolled PM emissions (lb/hour)	Allowable Emission Rate (lb/hour)
	(lbs/hr)	(tons/hr)		
Lathe Machine M1800 (LM1) controlled by baghouse (BH5)	100.0	0.050	0.850	0.551
Vertical Turret Lathe M1905 (LM2) controlled by baghouse (BH5)	250.0	0.125	2.125	1.018
Vertical Turret Lathe M1900 (LM3) controlled by baghouse (BH5)	425.0	0.213	3.613	1.452
Vertical Turret Lathe M1921 (LM4) controlled by baghouse (BH5)	144.0	0.072	1.224	0.703

These limitations were calculated as follows:

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:

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

The uncontrolled PM emissions, from each of unit in the metal machining operations, are greater than the 326 IAC 6-3-2 allowable emissions. Therefore, the portable dust collector, identified as baghouse BH5, shall be in operation at all times any of the metal machining units is in operation, in order to comply with these limits.

See Appendix A, for the detailed calculations.

*Metal Grinding and Finishing Operations*

- (a) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)  
 The potential particulate emissions from the metal grinding operations are less than five hundred fifty-one thousandths (0.551) pound per hour, combined. Therefore, pursuant to 326 IAC 6-3-1(b)(14) the metal grinding operations are exempt from 326 IAC 6-3, and the requirements are not included in the permit.

See Appendix A, for the detailed calculations.

*Friction Material Handling:*

- (a) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)  
 The potential particulate emissions from the friction material handling are less than five hundred fifty-one thousandths (0.551) pound per hour. Therefore, pursuant to 326 IAC 6-3-1(b)(14) the friction material handling is exempt from 326 IAC 6-3, and the requirements are not included in the permit. See Appendix A, for the detailed calculations.

*Friction Material Mixing*

- (a) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)  
 The potential particulate emissions from the friction material mixer (M1) are less than five hundred fifty-one thousandths (0.551) pound per hour. Therefore, pursuant to 326 IAC 6-3-1(b)(14) M1 is exempt from 326 IAC 6-3, and the requirements are not included in the permit.

See Appendix A, for the detailed calculations.

*Friction Material Machining Operations*

- (a) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)  
 Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in the friction material machining operations shall not exceed the corresponding pound per hour limitations listed in the table below:

Emission Unit	Process Weight Rate		Uncontrolled PM emissions (lb/hour)	Allowable Emission Rate (lb/hour)
	(lbs/hr)	(tons/hr)		
Cutting Machine (C1) controlled by baghouse (BH2)	75.0	0.038	0.638	0.454
Slitting Machine (S1) controlled by baghouse (BH2)	200.0	0.100	1.700	0.877
Drill Machine (D1) controlled by baghouse (BH2)	200.0	0.100	1.700	0.877

These limitations were calculated as follows:

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:

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

The uncontrolled PM emissions, from each of unit in the friction material machining operations, are greater than the 326 IAC 6-3-2 allowable emissions. Therefore, the portable dust collector, identified as baghouse BH2, shall be in operation at all times any of the metal machining units is in operation, in order to comply with these limits.

See Appendix A, for the detailed calculations.

*Friction Material Grinding and Finishing Operations*

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

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in the friction material grinding operations shall not exceed the corresponding pound per hour limitations listed in the table below:

Emission Unit	Process Weight Rate		Uncontrolled PM emissions (lb/hour)	Allowable Emission Rate (lb/hour)
	(lbs/hr)	(tons/hr)		
Sander (S2) controlled by baghouse (BH2)	75.0	0.038	0.638	0.454
Grinder (G3) controlled by baghouse (BH2)	200.0	0.100	1.700	0.877
Grinder (G4) controlled by baghouse (BH2)	200.0	0.100	1.700	0.877

These limitations were calculated as follows:

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:

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

The uncontrolled PM emissions, from each of unit in the friction material grinding operations, are greater than the 326 IAC 6-3-2 allowable emissions. Therefore, the portable dust collector, identified as baghouse BH2, shall be in operation at all times any of the metal machining units is in operation, in order to comply with these limits.

See Appendix A, for the detailed calculations.

*Closed/Compression Molding Operations*

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

The potential particulate emissions from the closed/compression molding process are negligible, less than five hundred fifty-one thousandths (0.551) pound per hour. Therefore, pursuant to 326 IAC 6-3-1(b)(14) the closed/compression molding process is exempt from 326 IAC 6-3, and the requirements are not included in the permit.

*Natural Gas Combustion*

(a) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)

(1) The two (2) existing boilers, identified as B1 and B2, constructed in 1953 and reconstructed in 1976, before the rule applicability date of June 8, 1972, shall comply with the requirements of 326 IAC 6-2-3, as follows:

The emission limitations are based on the following equation as provided in 326 IAC 6-2-3:

$$Pt = a h C / 76.5 Q^{0.75} N^{0.25}$$

Where: C = Maximum ground level concentration with respect to distance from the point source at the  $A_{critical}$  wind speed for level terrain. This shall equal fifty (50)

micrograms per cubic meter ( $\mu/m^3$ ) for a period not to exceed a sixty (60) minute time period.

- Pt = Pounds of particulate matter emitted per million Btu heat input (lb/mmBtu).
- Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.
- N = Number of stacks in fuel burning operation.
- a = Plume rise factor, which is used to make allowance for less than theoretical plume rise. The value sixty-seven hundredths (0.67) shall be used for Q less than or equal to one thousand (1,000) mmBtu/hr heat input. The value eight tenths (0.8) shall be used for Q greater than one thousand (1,000) mmBtu/hr heat input.
- h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent  $\Delta N$  stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^n H_i * pa_i * Q}{\sum_{i=1}^n pa_i * Q}$$

Where: pa = the actual controlled emission rate in lb/mmBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

The heat input capacities of the two (2) boilers are twelve and five hundred sixty-three thousandths (12.563) mmBtu/hr, each, and the stacks are thirty-eight (38) feet high, each. There were no boilers in operation at the source when these boilers were constructed.

$$Pt = [(0.67 * 38 * 50) / (76.5 * 25.13^{0.75} * 2^{0.25})] = 1.25 \text{ lbs/MMBtu heat input}$$

However, pursuant to 326 IAC 6-2-3(d), particulate emissions from all facilities used for indirect heating purposes which were existing and in operation on or before June 8, 1972, shall in no case exceed eight tenths (0.8) lbs/MMBtu heat input. Therefore, the particulate matter emissions from boilers B1 and B2 shall be limited to eight tenths (0.8) lbs/mmBtu heat input.

Based on Appendix A and AP-42, the potential PM emission rate is still one and ninety hundredths (1.90) pounds per million cubic feet (lbs/MMCF) of natural gas or nineteen ten-thousandths (0.0019) lbs/mmBtu. Therefore, the two (2) boilers will comply with this rule.

- (2) The one (1) existing boiler, identified as HWB1, constructed in 1998, after the rule applicability date of September 21, 1983, shall comply with the requirements of 326 IAC 6-2-4, as follows:

The emission limitations are based on the following equation as provided in 326 IAC 6-2-4:

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/mmBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (mmBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

The maximum heat input capacity of HWB1 is thirty-four hundredths (0.34) mmBtu/hr. There were two (2) boilers in operation at the source when this boiler was constructed. Therefore, Q for HWB1 is twenty-five and forty-seven (25.47) mmBtu/hr.

$$Pt = 1.09/(25.47)^{0.26} = 0.47 \text{ lb/MMBtu heat input}$$

Therefore, the particulate matter emissions from HWB1 shall be limited to forty-seven hundredths (0.47) pounds per mmBtu heat input.

Based on AP-42 and Appendix A, the potential PM emission rate of one and ninety hundredths (1.90) pounds per million cubic feet of natural gas or nineteen ten-thousandths (0.0019) pounds per million British thermal units. Therefore, HWB1 will comply with this rule.

- (3) The Paint Drying Oven (OV1), Permafuse Oven (OV2), Heat Treat Oven (OV7), and the four (4) burners comprising the Aqua Master Parts Washer (PW1), are each not sources of indirect heating, as defined in 326 IAC 1-2-19 "Combustion for indirect heating". Therefore, the requirements of 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units) do not apply to the Paint Drying Oven (OV1), Permafuse Oven (OV2), Heat Treat Oven (OV7), and the four (4) burners comprising the Aqua Master Parts Washer (PW1), and are not included in the permit.
- (b) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)  
The Paint Drying Oven (OV1), Permafuse Oven (OV2), Heat Treat Oven (OV7), and the four (4) burners comprising the Aqua Master Parts Washer (PW1), each, do not meet the definition of a "manufacturing process", as defined in 326 IAC 6-3-1.5(2), and are therefore each exempt from the requirements of 326 IAC 6-3. Consequently, the requirements of 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) do not apply to the Paint Drying Oven (OV1), Permafuse Oven (OV2), Heat Treat Oven (OV7), and the four (4) burners comprising the Aqua Master Parts Washer (PW1), and are not included in the permit.
- (c) 326 IAC 7-1 (Sulfur Dioxide Emissions Limitations: Applicability)  
The potential emissions from the Paint Drying Oven (OV1), Permafuse Oven (OV2), Heat Treat Oven (OV7), and the four (4) burners comprising the Aqua Master Parts Washer (PW1), and three (3) boilers (B1, B2 & HWB1), each, are less than twenty-five (25) tons per year and ten (10) pounds per hour respectively. Therefore, the requirements of 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations) still do not apply to the Paint Drying Oven (OV1), Permafuse Oven (OV2), Heat Treat Oven (OV7), and the four (4) burners comprising the Aqua Master Parts Washer (PW1), and three (3) boilers (B1, B2 & HWB1), and are not included in the permit.

*Emergency Diesel Fire Pump*

- (a) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)  
The diesel-fired emergency fire pump (FP1) is not a source of indirect heating, as defined in 326 IAC 1-2-19 "Combustion for indirect heating". Therefore, the requirements of 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units) do not apply to the diesel-fired emergency fire pump (FP1), and are not included in the permit.

- (b) **326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)**  
 Pursuant to 326 IAC 6-3-1(a), activities that do not meet the definition of a "manufacturing process", as defined in 326 IAC 6-3-1.5(2), are exempted from 326 IAC 6-3. The diesel-fired emergency fire pump (FP1) does not meet the definition of a "manufacturing process", and is therefore exempt from the requirements of 326 IAC 6-3. Consequently, the requirements are not included in the permit.

**Compliance Determination, Monitoring and Testing Requirements**

Compliance Determination Requirements

- (a) The surface coating operation conducted in Paint Booth #1 (PB1), has applicable compliance determination conditions as specified below:

Emission Unit/Control	Operating Parameters	Method
surface coating operations (Booth PB1)	VOC content	Preparing or obtaining the "as supplied" and "as applied" VOC/HAP data sheets
		Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4 as required by IDEM.

- (1) Confirmation of the VOC content of the coatings used in PB1 is required to determine compliance with the provisions of 326 IAC 8-2-9 (Miscellaneous Metal Coating).
- (b) The baghouse used to control particulate emissions from the Metal Machining Operations, shall be in operation and control emissions at all times that any of the Metal Machining equipment is in operation.
- (c) The baghouse used to control particulate emissions from the Friction Material Machining and Grinding Operations, shall be in operation and control emissions at all times that any of the Friction Material Machining and Grinding equipment is in operation.

Testing requirements

- (a) IDEM has determined that the validity of the alternate emission factors must be confirmed for use in the NEW Clutch Parts Manufacturing Line's closed/compression molding operations.
- (1) The source shall submit a copy of the September 18, 1997 test report and associated test data generated from testing conducted at Carlisle Motion Control Industries, Inc.'s South Hill facility, located at 1000 Cycle Lane in South Hill, Virginia, for validation.
- (A) If the data is determined to be valid for estimating HAP and VOC emissions from the closed/compression molding operations, then testing will not be required.
- (B) If the data is determined not to be valid, then the source shall conduct a test utilizing methods as approved by the Commissioner.
- (b) There are no specific testing requirements associated with the surface coating operations, shoe cell assembly, metal machining and grinding operations, friction material machining and grinding operations, material handling, natural gas combustion units, emergency diesel fire pump, or paved roads at this source.

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### Compliance Monitoring Requirements

- (a) The surface coating operations, including Paint Booths #1, #2, and #3 (PB1-PB3), each, have applicable compliance monitoring conditions as specified below:

Control	Parameter	Frequency	Range	Excursions & Exceedances
Paint booth dry filters	Inspections	Daily	Normal-Abnormal	Response Steps
Paint booth coating emissions and presence of overspray on the rooftops and the nearby ground	Inspections	Weekly and Monthly	Normal-Abnormal	Response Steps

- (1) These monitoring conditions are necessary because the dry filters for the surface coating operations, must operate properly to ensure compliance with 326 IAC 6-3-2(d) (Particulate emission limitations, work practices, and control technologies).
- (b) There are no specific compliance monitoring requirements for the metal machining and grinding operations, the friction material mixing, machining, grinding, and material handling operations, the closed/compression molding operations, the ten (10) natural gas-fired combustion units at this source, the emergency diesel fire pump engine, the research and development, or the maintenance activities occurring at this source.

### Recordkeeping and Reporting Requirements

- (a) The Permittee shall maintain records of coating and solvent usage, and VOC content, in order demonstrate compliance with the VOC emission limits established for Paint Booth #1 (PB1);
- (b) The Permittee shall maintain of records of any additional inspections prescribed by the Preventive Maintenance Plan.

### **Conclusion and Recommendation**

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on November 10, 2009.

The construction and operation of this source shall be subject to the conditions of the attached proposed New Source Review, New Source Construction, and MSOP No. 105-28659-00013. The staff recommends to the Commissioner that this New Source Review, New Source Construction, and MSOP be approved.

### **IDEM Contact**

- (a) Questions regarding this proposed permit can be directed to Hannah Desrosiers 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) 234-5374 or toll free at 1-800-451-6027 extension 4-5374.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.idem.in.gov](http://www.idem.in.gov)

**Appendix A: Emissions Calculations**  
**Entire Source Emission Summary**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

Uncontrolled Potential Emissions (tons/year)											
Category	Pollutant	Emissions Generating Activity									TOTAL
		Brake Assembly & Brake Parts Manufacturing Line			NEW Clutch Parts Manufacturing Line			Natural Gas Combustion Units	Emergency Diesel Fire Pump	Paved Roads	
		Surface Coating Operations	Shoe Cell Assembly Operations	Machining & Grinding Operations	Material Handling	Molding Operations	Machining & Grinding Operations				
Criteria	PM	29.92	0.00	34.25	0.45	0	35.37	0.24	0.05	0.60	100.88
Pollutants	PM10	29.92	0.00	3.43	0.21	0	3.54	0.98	0.05	0.12	38.23
	PM2.5	29.92	0.00	3.43	0.21	0	3.54	0.73	0.05	0.02	37.89
	SO2	0	0	0	0	0	0	0.08	0.05	0	0.13
	NOx	0	0	0	0	0	0	12.86	0.75	0	13.61
	VOC	8.68	0.04	0	0	4.13	0	0.71	0.06	0	13.62
	CO	0	0	0	0	0	0	10.80	0.16	0	10.96
Hazardous Air Pollutants	Acrylonitrile	0	0	0	0	0.04	0	0	0	0	0.04
	1,3-Butadiene	0	0	0	0	0.01	0	0	6.64E-06	0	0.01
	Acetaldehyde	0	0	0	0	0	0	0	1.30E-04	0	1.30E-04
	Acrolein	0	0	0	0	0	0	0	1.57E-05	0	1.57E-05
	Benzene	0	0	0	0	0	0	2.70E-04	1.58E-04	0	4.28E-04
	Dichlorobenzene	0	0	0	0	0	0	1.54E-04	0	0	1.54E-04
	Ethylbenzene	0.02	0	0	0	0	0	0	0	0	0.02
	Formaldehyde	0	0	0	0	0.01	0	9.64E-03	2.00E-04	0	0.02
	Hexane	0	0	0	0	0	0	0.23	0	0	0.23
	Methanol	0	0.02	0	0	0	0	0	0	0	0.02
	Methyl isobutyl ketone	0	1.51E-03	0	0	0	0	0	0	0	1.51E-03
	Napthalene	0.05	0	0	0	0	0	0	0	0	0.05
	Phenol	0	0	0	0	0.48	0	0	0	0	0.48
	Toluene	0	0	0	0	0	0	4.37E-04	6.94E-05	0	5.07E-04
	Total PAH HAPs	0	0	0	0	0	0	0	2.85E-05	0	2.85E-05
	Xylenes	0.25	0	0	0	0	0	0	4.84E-05	0	0.25
	Cadmium	0	0	0	0	0	0	1.41E-04	0	0	1.41E-04
	Chromium	0	0	4.11	0	0	0	1.80E-04	0	0	4.11
	Lead	0	0	0.24	0	0	0	6.43E-05	0	0	0.24
	Manganese	0	0	3.43	0	0	0	4.89E-05	0	0	3.43
Nickel	0	0	3.43	0	0	0	2.70E-04	0	0	3.43	
<b>Totals</b>		<b>0.32</b>	<b>0.02</b>	<b>11.20</b>	<b>0</b>	<b>0.54</b>	<b>0</b>	<b>0.24</b>	<b>6.58E-04</b>	<b>0</b>	<b>12.33</b>
									<b>Worse Case HAP</b>		<b>4.11</b>

Total emissions based on rated capacity at 8,760 hours/year

**Appendix A: Emissions Calculations**  
**Entire Source Emission Summary**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

Controlled Potential Emissions (tons/year)												
Category	Pollutant	Emissions Generating Activity										
		Brake Manufacturing			Clutch Manufacturing				Natural Gas Combustion Units	Emergency Diesel Fire Pump	Paved Roads	TOTAL
		Surface Coating Operations	Shoe Cell Assembly Operations	Machining & Grinding Operations	Material Handling	Molding Operations	Machining & Grinding Operations					
Criteria	PM	0.38	0.00	0.69	0.12	0	0.35	0.24	0.05	0.30	2.14	
Pollutants	PM10	0.38	0.00	0.07	0.04	0	0.04	0.98	0.05	0.06	1.61	
	PM2.5	0.38	0.00	0.07	0.04	0	0.04	0.73	0.05	0.01	1.32	
	SO2	0	0	0	0	0	0	0.08	0.05	0	0.13	
	NOx	0	0	0	0	0	0	12.86	0.75	0	13.61	
	VOC	8.68	0.04	0	0	4.13	0	0.71	0.06	0	13.62	
	CO	0	0	0	0	0	0	10.80	0.16	0	10.96	
Hazardous Air Pollutants	Acrylonitrile	0	0	0	0	0.04	0	0	0	0	0.04	
	1,3-Butadiene	0	0	0	0	0.01	0	0	6.64E-06	0	0.01	
	Acetaldehyde	0	0	0	0	0	0	0	1.30E-04	0	1.30E-04	
	Acrolein	0	0	0	0	0	0	0	1.57E-05	0	1.57E-05	
	Benzene	0	0	0	0	0	0	2.70E-04	1.58E-04	0	4.28E-04	
	Dichlorobenzene	0	0	0	0	0	0	1.54E-04	0	0	1.54E-04	
	Ethylbenzene	0.02	0	0	0	0	0	0	0	0	0.02	
	Formaldehyde	0	0	0	0	0.01	0	9.64E-03	2.00E-04	0	0.02	
	Hexane	0	0	0	0	0	0	0.23	0	0	0.23	
	Methanol	0	0.02	0	0	0	0	0	0	0	0.02	
	Methyl isobutyl ketone	0	1.51E-03	0	0	0	0	0	0	0	1.51E-03	
	Napthalene	0.05	0	0	0	0	0	0	0	0	0.05	
	Phenol	0	0	0	0	0.48	0	0	0	0	0.48	
	Toluene	0	0	0	0	0	0	4.37E-04	6.94E-05	0	5.07E-04	
	Total PAH HAPs	0	0	0	0	0	0	0	2.85E-05	0	2.85E-05	
	Xylenes	0.25	0	0	0	0	0	0	4.84E-05	0	0.25	
	Cadmium	0	0	0	0	0	0	1.41E-04	0	0	1.41E-04	
	Chromium	0	0	0.08	0	0	0	1.80E-04	0	0	0.08	
	Lead	0	0	4.80E-03	0	0	0	6.43E-05	0	0	4.86E-03	
	Manganese	0	0	0.07	0	0	0	4.89E-05	0	0	0.07	
Nickel	0	0	0.07	0	0	0	2.70E-04	0	0	0.07		
<b>Totals</b>		<b>0.32</b>	<b>0.02</b>	<b>0.22</b>	<b>0</b>	<b>0.54</b>	<b>0.00</b>	<b>0.24</b>	<b>6.58E-04</b>	<b>0</b>	<b>1.35</b>	
										<b>Worse Case HAP</b>	<b>0.48</b>	

Total emissions based on rated capacity at 8,760 hours/year.

**Appendix A: Emissions Calculations  
Volatile Organic Compound (VOC) Emissions  
From the Surface Coating, Molding, and Shoe Cell Assembly Operations**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

Material	Density (lb/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Max Usage Rate (gal/hr)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (lbs/hour)	Actual VOC <sup>a</sup> (lb/day)	Potential VOC (lbs/day)	Actual VOC <sup>b</sup> (ton/yr)	Potential VOC (ton/year)	* Potential PM/PM10/PM2.5 (lbs/hour)	* Potential PM/PM10/PM2.5 (ton/year)	** Transfer Efficiency
<b>Brake Assembly &amp; Brake Parts Manufacturing Line - Surface Coating</b>																	
<b>Paint Booth #1 (PB1)</b>																	
Red Oxide Primer***	10.21	0%	0%	0%	0%	36.00%	0.330	0.80	0.80	0.26	0.53	6.34	0.10	1.16	1.68	7.38	50%
P1004 Black Gloss H/S H/F ACR ENA	8.11	39.99%	0.00%	39.99%	0.00%	0.00%	0.330	3.24	3.24	1.07	2.14	25.69	0.39	4.69	0.80	3.52	50%
KRYLON® PAINT ALL™ Fast Dry Enamel	6.59	50.50%	0.00%	50.50%	0.00%	13.00%	0.025	3.33	3.33	0.08	0.17	2.00	0.03	0.36	0.04	0.18	50%
Clean-up Solvent (Xylene)	7.18	100.00%	0.00%	100.00%	0.00%	0.00%	0.0013	7.18	7.18	0.01	0.02	0.22	3.41E-03	0.04	0	0	100%
Totals:											2.33	0.42	5.09	7.56			
<b>Paint Booth #2 (PB2)</b>																	
Red Oxide Primer***	10.21	0%	0%	0%	0%	36.00%	0.500	0.80	0.80	0.40	0.80	9.60	0.15	1.75	2.55	11.18	50%
Clean-up Solvent (Xylene)	7.18	100.00%	0.00%	100.00%	0.00%	0.00%	0.0013	7.18	7.18	0.01	0.02	0.22	3.41E-03	0.04	0	0	100%
Totals:											0.82	0.15	1.79	11.18			
<b>Paint Booth #3 (PB3)</b>																	
Red Oxide Primer***	10.21	0%	0%	0%	0%	36.00%	0.500	0.80	0.80	0.40	0.80	9.60	0.15	1.75	2.55	11.18	50%
Clean-up Solvent (Xylene)	7.18	100.00%	0.00%	100.00%	0.00%	0.00%	0.0013	7.18	7.18	0.01	0.02	0.22	3.41E-03	0.04	0	0	100%
Totals:											0.82	0.15	1.79	11.18			
<b>Surface Coating Subtotal</b>														8.68	29.92		
<b>Brake Assembly &amp; Brake Parts Manufacturing Line - Shoe Cell Assembly Operations - Permafuse Oven (OV2)</b>																	
Bond Prep Solvent (Denatured Alcohol)	6.61	100.00%	0%	100.00%	0%	0%	0.0013	3.24	6.61	0.01	0.07	0.21	0.01	0.04	0	0	100%
Total:											0.07	0.01	0.04	0.00			
<b>NEW Clutch Parts Manufacturing Line - Closed/Compression Molding</b>																	
Solvent (S-1015)***	7.39	100.00%	0%	100.00%	0%	0%	0.0361	7.39	7.39	0.27	2.13	6.40	0.39	1.17	0	0	100%
Total:											2.13	0.39	1.17	0.00			
<b>Total State Potential Emissions</b>														<b>Uncontrolled Potential Emissions: 9.88      29.92</b> <b>Control Efficiency: n/a                      95%</b> <b>Controlled Emissions: n/a                   0.38</b>			

**METHODOLOGY**

Pounds of VOC per Gallon Coating less Water = Density (lb/gal) \* Weight % Organics \* 1/(1-Volume % water)  
Pounds of VOC per Gallon Coating = Density (lb/gal) \* Weight % Organics  
PTE of VOC (lbs/hour) = Pounds of VOC/Gallon coating (lb/gal) \* Maximum Usage Rate (gal/hr)  
PTE of VOC (lbs/day) = Pounds of VOC/Gallon coating (lb/gal) \* Maximum Usage Rate (gal/hr) \* 24 hours/day  
PTE of VOC (tons/year) = Pounds of VOC per Gallon coating (lb/gal) \* Maximum Usage Rate (gal/hr) \* 8760 hours/year \* 1 ton/2000 lbs  
PTE of PM/PM10 (tons/year) = Maximum Usage Rate (gal/hr) \* Density (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer Efficiency %) \* 8760 hours/year \* 1 ton/2000 lbs  
PTE of PM/PM10 (lbs/hour) = Maximum Usage Rate (gal/hr) \* Density (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer Efficiency %)  
Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)  
<sup>a</sup> Actual VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Maximum Usage Rate (gal/hr) \* Actual hours of operation per day (hr)  
<sup>b</sup> Actual VOC tons per year = Pounds of VOC per Gallon coating (lb/gal) \* Maximum Usage Rate (gal/hr) \* Actual hours of operation per day (hrs) \* (365 days/yr) \* (1 ton/2000 lb)  
Total = Worst Case Coating + Sum of all solvents used  
Total State Potential Emissions = Sum of Totals from each Operation

**NOTES**

- <sup>a</sup> The source has indicated that each paint booth comprising the surface coating operations, is currently in use no more than 2 hours per day. Therefore, Actual VOC emissions (lb/day) for the surface coating operations are based on 2hrs per day and 365 days per year. Additionally, Actual VOC emissions (lb/day) for the Shoe Cell Assembly Operations and the Closed/Compression Molding Operations are based on 8hrs/day and 365 days/year.
- <sup>b</sup> PM, PM10, and PM 2.5 emissions are assumed equal.
- > 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". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.
- \*\* Coatings are applied using HVLP guns. The transfer efficiency is from AP-42, Table 4.2.2.11-1. (AP-42, 01/95). All units are controlled by dry filters.
- \*\*\*Based on MSDSs submitted by the source, the following applies:  
All parts washers at the facility use a water-based alkaline solvent (CEFA-KLEEN 5378). Therefore, no VOC or HAP emissions are expected from the use of the solvent.  
The Red Oxide Primer currently being used in Paint Booths PB1-PB3 does not contain any HAPs.  
The Solvent (S-1015) currently being used in the molding operations does not contain any HAPs.

**Appendix A: Emissions Calculations  
Hazardous Air Pollutant (HAP) Emissions  
From the Surface Coating and Shoe Cell Assembly Operations**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

Material	Density (lb/gal)	Max Usage Rate (gal/hr)	Weight % Ethylbenzene	Weight % Methanol	Weight % Methyl isobutyl ketone	Weight % Napthalene	Weight % Xylene	Potential Emissions (Tons/Year)				
								Ethylbenzene	Methanol	Methyl isobutyl ketone	Napthalene	Xylene
<b>Brake Assembly &amp; Brake Parts Manufacturing Line - Surface Coating</b>												
<i>Paint Booth #1 (PB1)</i>												
P1004 Black Gloss H/S H/F ACR ENA	8.11	0.33	0%	0%	0%	0.4%	0%	0	0	0	0.047	0
KRYLON® PAINT ALL® Fast Dry Enamel	6.59	0.03	3%	0%	0%	0%	18%	0.022	0	0	0	0.130
Clean-up Solvent (Xylene)	7.18	0.0013	0%	0%	0%	0%	100%	0	0	0	0	0.041
								0.02	0	0	0.05	0.17
<i>Paint Booth #2 (PB2)</i>												
Clean-up Solvent (Xylene)	7.18	0.0013	0%	0%	0%	0%	100%	0%	0	0	0	0.041
								0	0	0	0	0.04
<i>Paint Booth #3 (PB3)</i>												
Clean-up Solvent (Xylene)	7.18	0.0013	0%	0%	0%	0%	100%	0%	0	0	0	0.041
								0	0	0	0	0.04
								0.02	0	0	0.05	0.25
<b>Brake Assembly &amp; Brake Parts Manufacturing Line - Shoe Cell Assembly Operations - Permafuse Oven (OV2)</b>												
Denatured Alcohol	6.61	0.0013	0%	55%	4%	0%	0%	0%	0.0207	0.0015	0	0
								0	0.02	0.002	0	0
								<b>0.02</b>	<b>0.02</b>	<b>0.002</b>	<b>0.05</b>	<b>0.25</b>

**METHODOLOGY**

PTE of HAP (tons/year) = Density (lb/gal) \* Maximum Throughput (units/hour) \* Maximum Usage (gal/unit) \* Weight % HAP \* 8760 hours/year \* 1 ton/2000 lbs

**NOTES**

Based on MSDSs submitted by the source, the following applies:

- All parts washers at the facility use a water-based alkaline solvent (CEFA-KLEEN 5378). Therefore, no VOC or HAP emissions are expected from the use of the solvent.
- The Red Oxide Primer currently being used in Paint Booths PB1-PB3 does not contain any HAPs.
- The Solvent (S-1015) currently being used in the molding operations does not contain any HAPs.

<b>Total Combined HAPs</b>	<b>0.32</b>
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**Appendix A: Emission Calculations  
Particulate Emissions (PM)  
from the NEW Clutch Parts Manufacturing Line - Material Handling**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

Unit ID	Maximum Capacity * (lbs/hr)	Pollutant	Emission Factor (lbs/ton) <sup>α</sup>	Emission Rate Uncontrolled (lbs/hr)	Emission Rate Uncontrolled (tons/yr)
Friction Material Handling	250.0	PM	0.220	0.0275	<b>0.120</b>
		PM10*	0.078	0.0098	<b>0.043</b>

<b>Total PM:</b>	<b>0.12</b>
<b>Total PM10:</b>	<b>0.04</b>

**Methodology**

\* The maximum capacity of the friction material handling operation is limited by the maximum capacity of the mixer (M1).

<sup>α</sup> No AP42 emission factors exist for the loading and unloading of friction materials into the mixer, therefore, for a conservative estimate the EPA WebFire PM and PM10 emission factors for Mineral Products, Concrete Batching, Mixer loading of cement/sand/aggregate (SCC 3-05-011-09) were used.

Emission Rate for PM and PM10 before controls (lbs/hr) = Maximum Capacity (lbs/hr) \* Emission Factor (lbs/ton) \* (1 ton/2000 lbs)

Emission Rate for PM and PM10 before controls (tons/yr) = Emission Rate (lbs/hr) \* (8760 hours/1 year) \* (1 ton/2000 lbs)

Emission Rate for PM and PM10 after controls (lbs/hr) = Emission Rate before controls (lbs/hr) \* (1-control efficiency)

Emission Rate for PM and PM10 after controls (tons/yr) = Emission Rate after controls (lbs/hr) \* (8760 hours/1 year) \* (1 ton/2000 lbs)

**Notes**

\* 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". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

\* PM 2.5 emissions are assumed equal to PM10 emissions.

**326 IAC 6-3: Particulate Emission Limitations for Manufacturing Processes**

Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential particulate emissions (PM) of less than five hundred fifty-one thousandths (0.551) pounds per hour are exempt from the requirements of 326 IAC 6-3.

**Appendix A: Emission Calculations  
Particulate Emissions (PM)  
from the NEW Clutch Parts Manufacturing Line - Material Mixing**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

Unit ID	Maximum Capacity (lbs/hr)	Control Efficiency (%)	Pollutant	Emission Factor (lbs/ton) <sup>a</sup>	Emission Rate before Controls (lbs/hr)	Emission Rate before Controls (tons/yr)	Emission Rate after Controls (lb/hr)	Emission Rate after Controls (tons/yr)
Mixer (M1) controlled by baghouse (BH1)	250.0	99.00%	PM	0.60	0.0750	<b>0.329</b>	7.50E-04	<b>3.29E-03</b>
			PM10*	0.30	0.0375	<b>0.164</b>	3.75E-04	<b>1.64E-03</b>

<b>Total PM:</b>	<b>0.33</b>	<b>3.29E-03</b>
<b>Total PM10:</b>	<b>0.16</b>	<b>1.64E-03</b>

**Methodology**

<sup>a</sup> No AP42 emission factors exist for the mixing of friction materials, therefore, for a conservative estimate the EPA WebFIRE PM and PM10 emission factors for Fiberglass Manufacturing - Raw material: Mixing/Weighing (SCC 30501223) were used.

Emission Rate for PM and PM10 before controls (lbs/hr) = Maximum Capacity (lbs/hr) \* Emission Factor (lbs/ton) \* (1 ton/2000 lbs)

Emission Rate for PM and PM10 before controls (tons/yr) = Emission Rate (lbs/hr) \* (8760 hours/1 year) \* (1 ton/2000 lbs)

Emission Rate for PM and PM10 after controls (lbs/hr) = Emission Rate before controls (lbs/hr) \* (1-control efficiency)

Emission Rate for PM and PM10 after controls (tons/yr) = Emission Rate after controls (lbs/hr) \* (8760 hours/1 year) \* (1 ton/2000 lbs)

**Notes**

\* 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". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

\* PM 2.5 emissions are assumed equal to PM10 emissions.

**326 IAC 6-3: Particulate Emission Limitations for Manufacturing Processes**

Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential particulate emissions (PM) of less than five hundred fifty-one thousandths (0.551) pounds per hour are exempt from the requirements of 326 IAC 6-3.

**Appendix A: Emission Calculations**  
**Volatile Organic Compound (VOC) and Hazardous Air Pollutant (HAP) Emissions**  
**from the NEW Clutch Parts Manufacturing Line - Closed/Compression Molding**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

**Hazardous Air Pollutant (HAP) Emissions**

Material	Max Usage Rate * (lbs/hr)	Max Usage Rate * (tpy)	Phenol EF (lb/ton) <sup>α</sup>	Formaldehyde EF (lb/ton) <sup>α</sup>	Acrylonitrile EF <sup>α</sup> (lb/ton)	Butadiene EF <sup>α</sup> (lb/ton)	Phenol Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Acrylonitrile Emissions (ton/yr)	Butadiene Emissions (ton/yr)
Friction Material (worst case from NF-718 & NF 794)	250.0	1,095.0	0.880	0.020	0.080	0.010	0.48	0.01	0.04	0.01
<b>Total Single HAPs</b>							0.48	0.01	0.04	0.01
<b>Total Combined HAPs</b>										<b>0.54</b>

**Volatile Organic Compound (VOC) Emissions**

Material	Max Usage Rate * (lbs/hr)	Max Usage Rate * (tpy)	Emission Factor <sup>β</sup> (lbs/ton)	Uncontrolled VOC Emission Rate (lbs/hr)	Uncontrolled VOC Emission Rate (tons/yr)
Friction Material (worst case from NF-718 & NF 794)	250.0	1,095.0	1.238	0.68	2.97
<b>Total VOCs</b>				0.68	2.97

**METHODOLOGY**

PTE of VOC (lbs/hr) = Emission Factor (lbs/ton) \* Capacity (lbs/hr) \* (1 ton/2000 lbs)  
 PTE of VOC (tons/yr) = Emission Rate (lbs/hr) \* (8760 hours/1 year) \*(1 ton/2000 lbs)  
 PTE of HAP (tons/year) = Maximum Throughput (tons/year) \* Emission Factor (lb/ton) \* 1 ton/2000 lbs

**NOTES**

\* The maximum usage rate of the friction material is limited by the maximum capacity of the mixer (M1).

<sup>α</sup> No AP 42 emission factors exist for Closed/Compression Molding Operations; therefore, Hazardous Air Pollutant (HAP) and Volatile Organic Compound (VOC) Emissions from the Clutch Parts Manufacturing Line's Closed/Compression Molding operations were characterized using emission factors developed for a similar operation installed at the source's heavy-duty truck brake lining manufacturing facility located in South Hill, Virginia.

The site-specific emission factors used for estimating the emission rates of VOC, phenol, formaldehyde, butadiene and acrylonitrile from the closed/compression molding presses were taken from a Virginia Department of Environmental Quality (Virginia DEQ) memorandum from Mr. Matthew Biesterveld of the South Central Regional Office, dated December 15, 2004. The data used in that memo were taken from a test report generated on September 18, 1997. IDEM has determined that these alternate emission factors must be validated for use in the closed/compression molding operations.

<sup>β</sup> Since each of the above listed HAPs are also VOCs, the VOC emission factor used to calculate emissions from the Clutch Parts Manufacturing Line's Closed/Compression Molding operations was generated by adding a safety factor of 25% to the sum of the individual HAP emission factors.

Particulate emissions from the Clutch Parts Manufacturing Line's Closed/Compression Molding operations are negligible.

Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential particulate emissions (PM) of less than five hundred fifty-one thousandths (0.551) pounds per hour are exempt from the requirements of 326 IAC 6-3.

**Appendix A: Emission Calculations  
Particulate Emissions (PM)  
from the Machining Operations**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

Unit ID	Maximum Capacity (lbs/hr)	Control Efficiency (%)	Pollutant	Emission Factor * (lbs/ton)	Emission Rate before Controls (lbs/hr)	Emission Rate before Controls (tons/yr)	Emission Rate after Controls (lb/hr)	Emission Rate after Controls (tons/yr)
<i>Brake Assembly &amp; Brake Parts Manufacturing Line</i>								
Lathe Machine M1800 (LM1) controlled by baghouse (BH5)	100.0	98.0%	PM	17.0	0.850	3.723	0.0170	0.0745
			PM10*	1.7	0.085	0.372	0.0017	0.0074
Vertical Turret Lathe M1905 (LM2) controlled by baghouse (BH5)	425.0	98.0%	PM	17.0	3.613	15.823	0.0723	0.3165
			PM10*	1.7	0.361	1.582	0.0072	0.0316
Vertical Turret Lathe M1900 (LM3) controlled by baghouse (BH5)	250.0	98.0%	PM	17.0	2.125	9.308	0.0425	0.1862
			PM10*	1.7	0.213	0.931	0.0043	0.0186
Vertical Turret Lathe M1921 (LM4) controlled by baghouse (BH5)	144.0	98.0%	PM	17.0	1.224	5.361	0.0245	0.1072
			PM10*	1.7	0.122	0.536	0.0024	0.0107
				PM	7.812	34.214	0.156	0.684
				PM10	0.781	3.421	0.016	0.068
<i>NEW Clutch Parts Manufacturing Line</i>								
Cutting Machine (C1) controlled by baghouse (BH2)	75.0	99.0%	PM	17.0	0.638	2.792	0.0064	0.0279
			PM10	1.7	0.064	0.279	0.0006	0.0028
Slitting Machine (S1) controlled by baghouse (BH2)	200.0	99.0%	PM	17.0	1.700	7.446	0.0170	0.0745
			PM10	1.7	0.170	0.745	0.0017	0.0074
Drill Machine (D1) controlled by baghouse (BH2)	200.0	99.0%	PM	17.0	1.700	7.446	0.0170	0.0745
			PM10	1.7	0.170	0.745	0.0017	0.0074
				PM	4.038	17.684	0.040	0.177
				PM10	0.404	1.768	0.004	0.018
<b>Total PM:</b>						<b>51.90</b>		<b>0.86</b>
<b>Total PM10:</b>						<b>5.19</b>		<b>0.09</b>

**Methodology**

EPA WebFIRE PM and PM10 emission factors for Grey Iron Foundries - Grinding/Cleaning (Table 12.10-7, SCC#30400340); and Emission Rate for PM and PM10 before controls (lbs/hr) = Emission Factor (lbs/ton) \* Capacity (lbs/hr) \* (1 ton/2000 lbs)  
Emission Rate for PM and PM10 after controls (tons/yr) = Emission Rate (lbs/hr) \* (8760 hours/1 year) \* (1 ton/2000 lbs)  
Emission Rate for PM and PM10 after controls (lbs/hr) = Emission Rate (lbs/hr) before controls \* (1-control efficiency)  
Emission Rate for PM and PM10 after controls (tons/yr) = Emission Rate after controls (lbs/hr) \* (8760 hours/1 year) \* (1 ton/2000 lbs)

**Notes**

\* 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". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.  
\* PM 2.5 emissions are assumed equal to PM10 emissions.

**326 IAC 6-3-2(e) Allowable Rate of Emissions**

Unit ID	Process Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)	Allowable Emissions (tons/yr)
<i>Brake Assembly &amp; Brake Parts Manufacturing Line</i>				
Lathe Machine M1800 (LM1) controlled by baghouse (BH5)	100.0	0.050	0.551	2.413
Vertical Turret Lathe M1905 (LM2) controlled by baghouse (BH5)	425.0	0.213	1.452	6.362
Vertical Turret Lathe M1900 (LM3) controlled by baghouse (BH5)	250.0	0.125	1.018	4.458
Vertical Turret Lathe M1921 (LM4) controlled by baghouse (BH5)	144.0	0.072	0.703	3.081
			Total	16.31
<i>NEW Clutch Parts Manufacturing Line</i>				
Cutting Machine (C1) controlled by baghouse (BH2)	75.0	0.038	0.454	1.990
Slitting Machine (S1) controlled by baghouse (BH2)	200.0	0.100	0.877	3.839
Drill Machine (D1) controlled by baghouse (BH2)	200.0	0.100	0.877	3.839
			Total	9.67

**Methodology**

Process weight; weight rate: Total weight of all materials introduced into any source operation (326 IAC 1-2-59(a)).  
Allowable Emissions (lb/hr) = 4.10(Process Weight Rate (lb/hr)\*0.67  
Allowable Emissions (tons/yr) = (Allowable Emissions (lb/hr)\*8760)/2000

**Appendix A: Process Particulate Emissions**  
**Potential Metal Hazardous Air Pollutant Process Emissions (MHAP)**  
**from the Machining Operations**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

Unit ID	* Total Uncontrolled Potential Particulate (PM) (tons/yr)	Weight % Chromium Compounds	Weight % Lead Compounds	Weight % Manganese Compounds	Weight % Nickel Compounds	Chromium Compounds Emissions (ton/yr)	Lead Compounds Emissions (ton/yr)	Manganese Compounds Emissions (ton/yr)	Nickel Compounds Emissions (ton/yr)
<i>Brake Assembly &amp; Brake Parts Manufacturing Line</i>									
Lathe Machine M1800 (LM1)	3.723	12.00%	0.70%	10.00%	10.00%	0.447	0.026	0.372	0.372
Vertical Turret Lathe M1905 (LM2)	15.823	12.00%	0.70%	10.00%	10.00%	1.899	0.111	1.582	1.582
Vertical Turret Lathe M1900 (LM3)	9.308	12.00%	0.70%	10.00%	10.00%	1.117	0.065	0.931	0.931
Vertical Turret Lathe M1921 (LM4)	5.361	12.00%	0.70%	10.00%	10.00%	0.643	0.038	0.536	0.536
Subtotal						4.11	0.24	3.42	3.42
<i>NEW Clutch Parts Manufacturing Line</i>									
Cutting Machine (C1) controlled by baghouse (BH2)	2.792	0%	0%	0%	0%	0E+00	0E+00	0E+00	0.E+00
Slitting Machine (S1) controlled by baghouse (BH2)	7.446	0%	0%	0%	0%	0E+00	0E+00	0E+00	0.E+00
Drill Machine (D1) controlled by baghouse (BH2)	7.446	0%	0%	0%	0%	0E+00	0E+00	0E+00	0.E+00
Subtotal						0.00	0.00	0.00	0.00
<b>Total Uncontrolled Potential Emissions (tons/yr)</b>						<b>4.11</b>	<b>0.24</b>	<b>3.42</b>	<b>3.42</b>
<b>Control Efficiency (%)</b>						<b>98%</b>	<b>98%</b>	<b>98%</b>	<b>98%</b>
<b>Controlled Potential Emissions (tons/year)</b>						<b>0.082</b>	<b>0.005</b>	<b>0.068</b>	<b>0.07</b>

**Methodology:**

Uncontrolled Potential Emissions (tons/yr) = Total Potential Particulate (tons/yr) \* Weight % Metal HAP

Controlled Potential Emissions (tons/yr) = Uncontrolled Potential Emissions (tons/yr) \*(1 - Control Efficiency (%))

<b>Total Combined HAPs (tons/yr)</b>	<b>11.19</b>
<b>Controlled Potential Emissions (tons/year)</b>	<b>0.22</b>

**Notes:**

Total emissions based on rated capacity at 8,760 hours/year.

\* The Total Uncontrolled Potential Particulate (PM) Process Emissions from the Metal Machining Operations, taken from page 8 of 14, of this Appendix.

Potential emissions for the metallic HAPs, including: Chromium, Lead, Manganese and Nickel, were determined using a "worst case" content from the various materials used by the source, taken from MSDSs provided by the source. &gt; Metal HAPs, including Cadmium, Chromium, Lead, Manganese and Nickel, are particulate in nature and can be controlled using a control device.

**Appendix A: Emission Calculations  
Particulate Emissions (PM)  
from the Grinding Operations**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

Unit ID	Maximum Capacity (lbs/hr)	Control Efficiency (%)	Pollutant	Emission Factor <sup>a</sup> (lbs/ton)	Emission Rate before Controls (lbs/hr)	Emission Rate before Controls (tons/yr)	Emission Rate after Controls (lb/hr)	Emission Rate after Controls (tons/yr)
<i>Brake Assembly &amp; Brake Parts Manufacturing Line</i>								
Grinder M1796 (G1) controlled by baghouse (BH3)	0.50	98.0%	PM	17.0	4.25E-03	0.019	8.50E-05	3.72E-04
			PM10*	1.7	4.25E-04	0.002	8.50E-06	3.72E-05
Grinder M1797 (G2) controlled by baghouse (BH4)	0.50	98.0%	PM	17.0	4.25E-03	0.019	8.50E-05	3.72E-04
			PM10*	1.7	4.25E-04	0.002	8.50E-06	3.72E-05
Subtotal				PM	8.50E-03	0.037	1.70E-04	7.45E-04
				PM10	8.50E-04	3.72E-03	1.70E-05	7.45E-05
<i>NEW Clutch Parts Manufacturing Line</i>								
Sander (S2) controlled by baghouse (BH2)	75.0	99.0%	PM	17.0	0.638	2.792	6.38E-03	0.028
			PM10*	1.7	0.064	0.279	6.38E-04	2.79E-03
Grinder (G3) controlled by baghouse (BH2)	200.0	99.0%	PM	17.0	1.700	7.446	0.017	0.074
			PM10*	1.7	0.170	0.745	1.70E-03	7.45E-03
Grinder (G4) controlled by baghouse (BH2)	200.0	99.0%	PM	17.0	1.700	7.446	0.0170	0.074
			PM10*	1.7	0.170	0.745	0.002	0.007
Subtotal				PM	4.04	17.68	0.04	0.18
				PM10	0.40	1.77	0.00	0.02
<b>Total PM:</b>						<b>17.72</b>		<b>0.18</b>
<b>Total PM10:</b>						<b>1.77</b>		<b>0.02</b>

**Methodology**

<sup>a</sup> EPA WebFIRE PM and PM10 emission factors for Grey Iron Foundries - Grinding/Cleaning (Table 12.10-7, SCC#30400340); and  
Emission Rate for PM and PM10 before controls (lbs/hr) = Emission Factor (lbs/ton) \* Capacity (lbs/hr) \* (1 ton/2000 lbs)  
Emission Rate for PM and PM10 before controls (tons/yr) = Emission Rate (lbs/hr) \* (8760 hours/1 year) \* (1 ton/2000 lbs)  
Emission Rate for PM and PM10 after controls (lbs/hr) = Emission Rate (lbs/hr) before controls \* (1-control efficiency)  
Emission Rate for PM and PM10 after controls (tons/yr) = Emission Rate after controls (lbs/hr) \* (8760 hours/1 year) \* (1 ton/2000 lbs)

**Notes**

\* 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". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.  
\* PM 2.5 emissions are assumed equal to PM10 emissions.

**326 IAC 6-3: Particulate Emission Limitations for Manufacturing Processes**

Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential particulate emissions (PM) of less than five hundred fifty-one thousandths (0.551) pounds per hour are exempt from the requirements of 326 IAC 6-3. Therefore, the Brake Assembly & Brake Parts Manufacturing Line's Grinding Operations, consisting of Grinders M1796 (G1) and M1797 (G2), are exempt from the requirements of 326 IAC 6-3.

**326 IAC 6-3-2(e) Allowable Rate of Emissions**

Unit ID	Process Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)	Allowable Emissions (tons/yr)
<i>NEW Clutch Parts Manufacturing Line</i>				
Sander (S2) controlled by baghouse (BH2)	75.0	0.038	0.454	1.990
Grinder (G3) controlled by baghouse (BH2)	200.0	0.100	0.877	3.839
Grinder (G4) controlled by baghouse (BH2)	200.0	0.100	0.877	3.839
Total				9.67

**Methodology**

Process weight; weight rate: Total weight of all materials introduced into any source operation (326 IAC 1-2-59(a)).  
Allowable Emissions (lb/hr) = 4.10(Process Weight Rate (lb/hr))^0.67  
Allowable Emissions (tons/yr) = (Allowable Emissions (lb/hr)\*8760)/2000

**Appendix A: Process Particulate Emissions  
Potential Metal Hazardous Air Pollutant Process Emissions (MHAP)  
from the Grinding Operations**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

Unit ID	* Total Uncontrolled Potential Particulate (PM) (tons/yr)	Weight % Chromium Compounds	Weight % Lead Compounds	Weight % Manganese Compounds	Weight % Nickel Compounds	Chromium Compounds Emissions (ton/yr)	Lead Compounds Emissions (ton/yr)	Manganese Compounds Emissions (ton/yr)	Nickel Compounds Emissions (ton/yr)
<i>Brake Assembly &amp; Brake Parts Manufacturing Line</i>									
Grinder M1796 (G1) controlled by baghouse (BH3)	0.0186	12.00%	0.70%	10.00%	10.00%	2.23E-03	1.30E-04	1.86E-03	1.9E-03
Grinder M1797 (G2) controlled by baghouse (BH4)	0.0186	12.00%	0.70%	10.00%	10.00%	2.23E-03	1.30E-04	1.86E-03	1.9E-03
Subtotal						4.47E-03	2.61E-04	3.72E-03	3.72E-03
<i>NEW Clutch Parts Manufacturing Line</i>									
Sander (S2) controlled by baghouse (BH2)	2.792	0%	0%	0%	0%	0.0	0.0	0.0	0.0
Grinder (G3) controlled by baghouse (BH2)	7.446	0%	0%	0%	0%	0.0	0.0	0.0	0.0
Grinder (G4) controlled by baghouse (BH2)	7.446	0%	0%	0%	0%	0.0	0.0	0.0	0.0
Subtotal						0.00	0.00	0.00	0.00
<b>Total Uncontrolled Potential Emissions (tons/yr)</b>						<b>4.47E-03</b>	<b>2.61E-04</b>	<b>3.72E-03</b>	<b>3.72E-03</b>
<b>Control Efficiency (%)</b>						<b>98%</b>	<b>98%</b>	<b>98%</b>	<b>98%</b>
<b>Controlled Potential Emissions (tons/year)</b>						<b>8.94E-05</b>	<b>5.21E-06</b>	<b>7.45E-05</b>	<b>7.45E-05</b>

**Methodology:**

Uncontrolled Potential Emissions (tons/yr) = Total Potential Particulate (tons/yr) \* Weight % Metal HAP  
Controlled Potential Emissions (tons/yr) = Uncontrolled Potential Emissions (tons/yr) \*(1 - Control Efficiency (%))

<b>Total Combined HAPs (tons/yr)</b>	<b>1.22E-02</b>
<b>Controlled Potential Emissions (tons/year)</b>	<b>2.43E-04</b>

**Notes:**

Total emissions based on rated capacity at 8,760 hours/year.

\* Total Uncontrolled Potential Particulate (PM) Process Emissions from the Metal Grinding Operations, taken from page 10 of 14, of this Appendix.

Potential emissions for the metallic HAPs, including: Chromium, Lead, Manganese and Nickel, were determined using a "worst case" content from the various materials used by the source, taken from MSDSs provided

> Metal HAPS, including Cadmium, Chromium, Lead, Manganese and Nickel, are particulate in nature and can be controlled using a control device.

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
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Combustion Source	Unit ID	# of units	Heat Input per unit (MMBtu/hr)	Total Heat Input (MMBtu/hr)
Boiler	B1	1	12.56	12.56
Boiler	B2	1	12.56	12.56
Hot Water Boiler	HWB1	1	0.34	0.34
Paint Drying Oven	OV1	1	1.00	1.00
Permafuse Oven	OV2	1	0.80	0.80
Heat Treat Oven	OV7	1	0.60	0.60
Aqua Master Parts Washer				
Pre-wash Burner	PW1	1	0.27	1.49
Dip Stage Burner		1	0.70	
Rinse Stage Burner		1	0.27	
Blow-off Stage Burner		1	0.25	
<b>Totals:</b>		<b>10</b>	<b>29.36</b>	<b>29.36</b>

Heat Input Capacity  
MMBtu/hr  
**29.36**

Potential Throughput  
MMCF/yr  
**257.16**

**Criteria Pollutant Emissions**

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	5.7	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.244	0.977	0.733	0.077	12.86	0.71	10.80

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable fractions combined. PM2.5 emission factor is condensable fraction only.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Hazardous Air Pollutant Emissions**

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.10E-03	1.20E-03	0.08	1.80	3.40E-03
Potential Emission in tons/yr	2.70E-04	1.54E-04	9.64E-03	0.231	4.37E-04

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
	5.00E-04	1.10E-03	1.40E-03	3.80E-04	2.10E-03
Potential Emission in tons/yr	6.43E-05	1.41E-04	1.80E-04	4.89E-05	2.70E-04

**Methodology**

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

Total HAPs **0.243** tons/yr

Worst Single HAP **0.231** tons/yr

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98).

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emission Calculations**  
**Reciprocating Internal Combustion Engines - Diesel Fuel**  
**Maximum Input Rate (<=4.2 MMBtu/hr) / Output Rating (<=600 HP)**  
**Emergency Diesel Fire Pump (FP1)**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

**Emissions calculated based on output rating (hp):**

Output Horsepower Rating (hp)	97.0
Maximum Hours Operated per Year *	500
Potential Throughput (hp-hr/yr)	48,500

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.05	0.05	0.05	0.05	0.75	0.06	0.16

**Hazardous Air Pollutants (HAPs)**

	Pollutant							Total PAH HAPs***
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/hp-hr****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	1.58E-04	6.94E-05	4.84E-05	6.64E-06	2.00E-04	1.30E-04	1.57E-05	2.85E-05
<b>Potential Emission of Total HAPs (tons/yr):</b>							<b>6.58E-04</b>	

**Methodology**

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] \* [Maximum Hours Operated per Year]  
 Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] \* [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

**Notes**

Emission Factors are from AP 42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2

\* The "Maximum Hours Operated per Year" as set forth in the September 6, 1995 memorandum from John S. Seitz of US EPA on the subject of "Calculating Potential to Emit for Emergency Generators".

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

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

\*\*\*\*Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

**Appendix A: Emission Calculations**  
**Fugitive Dust Emissions - Paved Roads**

**Company Name:** Carlisle Industrial Brake & Friction  
**Address City IN Zip:** 1031 East Hillside Drive, Bloomington, IN 47401  
**Permit No.:** 105-28659-00013  
**Reviewer:** Hannah L. Desrosiers  
**Date Received:** November 10, 2009

**Paved 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).

Vehicle Information (provided by source)

Vehicle Type	Maximum number of vehicles	Maximum number of one-way trips per day per vehicle type	Maximum trips per day (trip/day)	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle & Load (tons/trip)	Total Weight driven per day (ton/day)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Personal Car/Truck	50.0	2.0	100.0	2.0	0.7	2.7	270.0	98,550.0	1,350.0	0.3	25.6	9,332.4
Freight Truck (6 axles)	5.0	2.0	10.0	16.0	32.0	48.0	480.0	175,200.0	1,350.0	0.3	2.6	933.2
Front Loader	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>			<b>110.0</b>			<b>50.7</b>	<b>750.0</b>	<b>273,750.0</b>	<b>2,700.0</b>	<b>0.5</b>	<b>28.1</b>	<b>10,265.6</b>

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

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

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	6.8	6.8	6.8	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	0.00036	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	0.6	g/m <sup>2</sup> = 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 =  days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)  
 N =  days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f =$	0.13	0.025	3.40E-03	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.12	0.022	3.11E-03	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

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)
Personal Car/Truck	5.97E-01	1.15E-01	1.59E-02	5.46E-01	1.05E-01	1.45E-02	2.73E-01	5.25E-02	7.25E-03
Freight Truck (6 axles)	5.97E-02	1.15E-02	1.59E-03	5.46E-02	1.05E-02	1.45E-03	2.73E-02	5.25E-03	7.25E-04
Front Loader	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	<b>0.6569</b>	<b>0.1262</b>	<b>0.0175</b>	<b>0.6007</b>	<b>0.1154</b>	<b>0.0160</b>	<b>0.3003</b>	<b>0.0577</b>	<b>0.0080</b>

**Methodology**

Maximum trips per day (trip/day) = [Maximum number of vehicles \* Maximum number of one-way trips per day per vehicle type]  
 Maximum Weight of Vehicle & Load (tons/trip) = [Maximum Weight of Vehicle (tons) + Maximum Weight of Load (tons)]  
 Total Weight driven per day (ton/day) = [Maximum Weight of Vehicle & Load (tons/trip)] \* [Maximum trips per day (trip/day)]  
 Total Weight driven per year (ton/yr) = [Maximum trips per day (trip/day) \* 365 days/yr]  
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / 5280 ft/mile]  
 Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] \* [Maximum one-way distance (mi/trip)]  
 Maximum one-way miles (miles/yr) = [[Maximum one-way distance (mi/day) \* 365 days/yr]  
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]  
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]  
 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)      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](http://www.idem.IN.gov)

## SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: John Cage  
Carlisle Industrial Brake & Friction  
1031 E Hillside Dr  
Bloomington, IN 47401

DATE: March 24, 2010

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

SUBJECT: Final Decision  
New Construction MSOP  
105 - 28659 - 00013

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:  
John Whicker  
Jon Akin ARCADIS  
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at [jbrush@idem.IN.gov](mailto:jbrush@idem.IN.gov).

Final Applicant Cover letter.dot 11/30/07



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
**Governor**

*Thomas W. Easterly*  
**Commissioner**

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

March 24, 2010

TO: Monroe Co Public Library

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

Subject: **Important Information for Display Regarding a Final Determination**

**Applicant Name: Carlisle Industrial Brake & Friction**  
**Permit Number: 105 - 28659 - 00013**

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures  
Final Library.dot 11/30/07

# Mail Code 61-53

IDEM Staff	LPOGOST 3/24/2010 Carlisle Industrial Brake & Friction 105 - 28659 - 00013 final)		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	Type of Mail:  <b>CERTIFICATE OF MAILING ONLY</b>	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee
											Remarks
1		John Cage Carlisle Industrial Brake & Friction 1031 E Hillside Dr Bloomington IN 47401 (Source CAATS) Via confirmed delivery									
2		John Whicker Carlisle Industrial Brake & Friction 1031 E Hillside Dr Bloomington IN 47401 (RO CAATS)									
3		Monroe Co Public Library 303 E Kirkwood Ave Bloomington IN 47408 (Library)									
4		Monroe County Health Department 119 W 7th St Bloomington IN 47404-3989 (Health Department)									
5		Mr. Randy Brown Plumbers & Steam Fitters Union, Local 136 2300 St. Joe Industrial Park Dr Evansville IN 47720 (Affected Party)									
6		Mr. Richard Monday 545 E. Margaret Dr. Terre Haute IN 47801 (Affected Party)									
7		Jon Akin ARCADIS 251 East Ohio Street #800 Indianapolis IN 46204 (Consultant)									
8		Monroe County Commissioners Monroe County Courthouse, Room 322 Bloomington IN 47404 (Local Official)									
9											
10											
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