



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
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TO: Interested Parties / Applicant  
DATE: December 12, 2007  
RE: Parker Hannifin / 113-22486-00043  
FROM: Matthew Stuckey, Deputy 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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100 North Senate Avenue  
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## Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

**Parker Hannifin Corporation  
903 N. Orange Street  
Albion, Indiana 46701**

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

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

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

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

Operation Permit No.: F 113-22486-00043	
Issued by:	Issuance Date: December 12, 2007
<i>Original signed by</i> Matthew Stuckey, Deputy Branch Chief Permits Branch Office of Air Quality	Expiration Date: December 12, 2012

## TABLE OF CONTENTS

<b>SECTION A</b>	<b>SOURCE SUMMARY</b> .....	5
A.1	General Information [326 IAC 2-8-3(b)]	
A.2	Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]	
A.3	Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]	
A.4	FESOP Applicability [326 IAC 2-8-2]	
<b>SECTION B</b>	<b>GENERAL CONDITIONS</b> .....	7
B.1	Definitions [326 IAC 2-8-1]	
B.2	Permit Term [326 IAC 2-8-4(2)] [326 IAC 2-1.1-9.5] [IC 13-15-3-6(a)]	
B.3	Term of Conditions [326 IAC 2-1.1-9.5]	
B.4	Enforceability [326 IAC 2-8-6]	
B.5	Severability [326 IAC 2-8-4(4)]	
B.6	Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]	
B.7	Duty to Provide Information [326 IAC 2-8-4(5)(E)]	
B.8	Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)] [326 IAC 2-8-5(1)]	
B.9	Annual Compliance Certification [326 IAC 2-8-5(a)(1)]	
B.10	Compliance Order Issuance [326 IAC 2-8-5(b)]	
B.11	Preventive Maintenance Plan [326 IAC 1-6-3] [326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)]	
B.12	Emergency Provisions [326 IAC 2-8-12]	
B.13	Prior Permits Superseded [326 IAC 2-1.1-9.5]	
B.14	Termination of Right to Operate [326 IAC 2-8-9] [326 IAC 2-8-3(h)]	
B.15	Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]	
B.16	Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)] [326 IAC 2-8-7(a)] [326 IAC 2-8-8]	
B.17	Permit Renewal [326 IAC 2-8-3(h)]	
B.18	Permit Amendment or Revision [326 IAC 2-8-10] [326 IAC 2-8-11.1]	
B.19	Operational Flexibility [326 IAC 2-8-15] [326 IAC 2-8-11.1]	
B.20	Source Modification Requirement [326 IAC 2-8-11.1] [326 IAC 2-2-2] [326 IAC 2-3-2]	
B.21	Inspection and Entry [326 IAC 2-8-5(a)(2)] [IC 13-14-2-2] [IC 13-17-3-2] [IC 13-30-3-1]	
B.22	Transfer of Ownership or Operational Control [326 IAC 2-8-10]	
B.23	Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16] [326 IAC 2-1.1-7]	
B.24	Credible Evidence [326 IAC 2-8-4(3)] [326 IAC 2-8-5] [62 FR 8314] [326 IAC 1-1-6]	
<b>SECTION C</b>	<b>SOURCE OPERATION CONDITIONS</b> .....	16
	<b>Emission Limitations and Standards [326 IAC 2-8-4(1)]</b>	
C.1	Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]	
C.2	Overall Source Limit [326 IAC 2-8]	
C.3	Opacity [326 IAC 5-1]	
C.4	Open Burning [326 IAC 4-1] [IC 13-17-9]	
C.5	Incineration [326 IAC 4-2] [326 IAC 9-1-2]	
C.6	Fugitive Dust Emissions [326 IAC 6-4]	
C.7	Stack Height [326 IAC 1-7]	
C.8	Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]	
	<b>Testing Requirements [326 IAC 2-8-4(3)]</b>	
C.9	Performance Testing [326 IAC 3-6]	
	<b>Compliance Requirements [326 IAC 2-1.1-11]</b>	
C.10	Compliance Requirements [326 IAC 2-1.1-11]	

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

- C.11 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]
- C.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]
- C.13 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)] [326 IAC 2-8-5(1)]

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

- C.14 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]
- C.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]
- C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4] [326 IAC 2-8-5]

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

- C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]
- C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

**Stratospheric Ozone Protection**

- C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

**SECTION D.1 FACILITY OPERATION CONDITIONS: Melting and Casting ..... 23**

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

- D.1.1 PM<sub>10</sub> Emission Limitation [326 IAC 2-8-4]
- D.1.2 Particulate [326 IAC 6-3-2]
- D.1.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

**Compliance Determination Requirements**

- D.1.4 Particulate Control

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

- D.1.5 Visible Emissions Notations
- D.1.6 Baghouse Parametric Monitoring
- D.1.7 Broken or Failed Bag Detection

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

- D.1.8 Record Keeping Requirements

**SECTION D.2 FACILITY OPERATION CONDITIONS: Bronco Blasters ..... 26**

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

- D.2.1 PM and PM<sub>10</sub> Emission Limitations [326 IAC 2-2] [326 IAC 2-8-4]
- D.2.2 Particulate [326 IAC 6-3-2]
- D.2.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

**Compliance Determination Requirements**

- D.2.4 Particulate Control

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

- D.2.5 Broken or Failed Bag Detection

**SECTION D.3 FACILITY OPERATION CONDITIONS: Sand Blasting..... 28**

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

- D.3.1 PM and PM<sub>10</sub> Emission Limitations [326 IAC 2-2] [326 IAC 2-8-4]
- D.3.2 Particulate [326 IAC 6-3-2]
- D.3.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

**Compliance Determination Requirements**

D.3.4 Particulate Control

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

D.3.5 Cyclone Failure Detection

**SECTION D.4 FACILITY OPERATION CONDITIONS: Insignificant Activities..... 30**

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

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

**Certification Form ..... 31**

**Emergency Occurrence Form ..... 32**

**Quarterly Deviation and Compliance Monitoring Report Form ..... 34**

## SECTION A

## SOURCE SUMMARY

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

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

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The Permittee owns and operates a stationary brass foundry and manufacturing source.

Source Address:	903 N. Orange Street, Albion, Indiana 46701
Mailing Address:	300 Parker Drive, Otsego, Michigan 49078
General Source Phone Number:	260 - 636 - 2104
SIC Code:	3463, 3491, 3492, 3494
County Location:	Noble
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

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

- (a) Two (2) electric induction melting and casting furnaces, constructed in 1983, equipped with a baghouse dust collector, identified as DC-1, exhausting to Stack DC-1, capacity: 1,800 pounds per hour, total.
- (b) One (1) blast cleaner, identified as Bronco Blaster No. 1, constructed in 1995, equipped with a baghouse dust collector, identified as DC-2, exhausting inside the building, capacity: 2,000 pounds of brass products per hour and 12 pounds of brass chips per hour.
- (c) One (1) blast cleaner, identified as Bronco Blaster No. 2, constructed in 1995, equipped with a baghouse dust collector, identified as DC-3, exhausting inside the building, capacity: 2,000 pounds of brass products per hour and 12 pounds of brass chips per hour.
- (d) One (1) blast cleaner, identified as Bronco Blaster No. 3, constructed in 1995, equipped with a baghouse dust collector, identified as DC-6, exhausting inside the building, capacity: 2,000 pounds of brass products per hour and 12 pounds of brass chips per hour.
- (e) One (1) blast cleaner, identified as Bronco Blaster No. 4, constructed in 1999, equipped with a baghouse dust collector, identified as DC-7, exhausting inside the building, capacity: 2,000 pounds of brass products per hour and 12 pounds of brass chips per hour.
- (f) One (1) sand blasting area, constructed in 1995, equipped with a cyclone dust collector, identified as DC-5, exhausting inside the building, capacity: 1,220 pounds per hour.

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

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

- (a) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.
- (b) Grinding and machining operations controlled with fabric filters with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute. [326 IAC 6-3-2]
- (c) Emissions from the Dross Reclaim Station, identified as DC-8, of less than 5 lbs per hour or 25 lbs per day of PM, and less than 0.6 tons per year or 3.29 lbs per day of lead. [326 IAC 6-3-2]
- (d) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour with a total rating of less than 1.0 million British thermal units per hour with no boilers.
- (e) Vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (f) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (g) Forced and induced draft cooling tower system not regulated under a NESHAP.
- (h) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (i) Paved roads and parking lots with public access. [326 IAC 6-4]
- (j) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (k) One (1) emergency diesel generator rated at 250 horsepower.
- (l) One (1) emergency natural gas-fired emergency generator rated at less than 500,000 British thermal units per hour.

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

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

## **SECTION B GENERAL CONDITIONS**

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

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

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

- (a) This permit, F 113-22486-00043, 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.3 Term of Conditions [326 IAC 2-1.1-9.5]**

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

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

### **B.4 Enforceability [326 IAC 2-8-6]**

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

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

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

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

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

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

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

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

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

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

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

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

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

The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

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

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
  - (2) The permitted facility was at the time being properly operated;
  - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
  - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ and Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,  
Compliance Section), or  
Telephone Number: 317-233-0178 (ask for Compliance Section)  
Facsimile Number: 317-233-6865  
Northern Regional Office phone: 574-245-4870; fax: 574-245-4877

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

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

and

Northern Regional Office  
220 W. Colfax Avenue, Suite 200  
South Bend, Indiana 46601-1634

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

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

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

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

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

- (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
  - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
  - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

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

- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

**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 F 113-22486-00043 and issued pursuant to permitting programs approved into the state implementation plan have been either:
  - (1) incorporated as originally stated,
  - (2) revised, or
  - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

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

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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 nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

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

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

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

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

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

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

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

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- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
  - (1) That this permit contains a material mistake.
  - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
  - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

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

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

Request for renewal shall be submitted to:

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

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

- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

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

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

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

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

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

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

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

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

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

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

and

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

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

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

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

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

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

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)] [IC 13-14-2-2] [IC 13-17-3-2] [IC13-30-3-1]

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

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

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

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

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

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

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

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

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

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

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

#### C.1 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 one hundred (100) pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed five hundred fifty-one thousandths (0.551) pounds per hour.

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

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

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period. This limitation shall also satisfy the requirements of 326 IAC 2-3 (Emission Offset);
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) The potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period. This limitation shall make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

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

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

#### C.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]**

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 Stack Height [326 IAC 1-7]**

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

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

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least two hundred sixty (260) linear feet on pipes or one hundred sixty (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  
Asbestos Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-52 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 seventy-five hundredths (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 Accredited 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 Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

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

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

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

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

Indiana Department of Environmental Management  
Compliance Data Section, 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.10 Compliance Requirements [326 IAC 2-1.1-11]**

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

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

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

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

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

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

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

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

### **C.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]**

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

### **C.13 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)] [326 IAC 2-8-5(1)]**

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

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

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

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

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

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

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

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

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

#### **C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]**

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

#### **C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]**

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

## **Stratospheric Ozone Protection**

### **C.19 Compliance with 40 CFR 82 and 326 IAC 22-1**

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

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

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description: Melting and Casting

- (a) Two (2) electric induction melting and casting furnaces, constructed in 1983, equipped with a baghouse dust collector, identified as DC-1, exhausting to Stack DC-1, capacity: 1,800 pounds per hour, total.

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

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

#### D.1.1 PM and PM<sub>10</sub> Emission Limitations [326 IAC 2-2] [326 IAC 2-8-4]

- (a) The PM emissions from the two (2) electric induction melting and casting furnaces shall be limited to less than a total of 3.82 pounds per hour. Compliance with this limit renders the requirements of 326 IAC 2-2 (PSD) not applicable.
- (b) The PM<sub>10</sub> emissions from the two (2) electric induction melting and casting furnaces shall be limited to less than a total of 4.56 pounds per hour. Compliance with this limit renders the requirements of 326 IAC 2-7 (Part 70) not applicable.

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the two (2) electric induction melting and casting furnaces shall not exceed a total of 3.82 pounds per hour when operating at a total process weight rate of 1,800 pounds per hour.

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

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:

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

#### D.1.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the two (2) electric induction melting and casting furnaces and their control device.

### Compliance Determination Requirements

#### D.1.4 Particulate Control

- (a) In order to comply with Conditions D.1.1 and D.1.2, the baghouse for particulate control shall be in operation and control emissions from the two (2) electric induction melting and casting furnaces at all times that either furnace 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.

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

### **D.1.5 Visible Emissions Notations**

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

### **D.1.6 Baghouse Parametric Monitoring**

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- (a) The Permittee shall record the pressure drop across the baghouse DC-1 used in conjunction with the two (2) electric induction melting and casting furnaces at least once per day when one or more of the furnaces are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

### **D.1.7 Broken or Failed Bag Detection**

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

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks or dust traces.

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

#### **D.1.8 Record Keeping Requirements**

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- (a) To document compliance with Condition D.1.5, the Permittee shall maintain a daily record of visible emission notations of the electric induction melting and casting furnaces baghouse stack exhaust DC-1. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the furnaces did not operate that day).
- (b) To document compliance with Condition D.1.6, the Permittee shall maintain a daily record of the pressure drop across the baghouse controlling the electric induction melting and casting furnaces. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g., the furnaces did not operate that day).
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## SECTION D.2 FACILITY OPERATION CONDITIONS

### Emissions Unit Description: Bronco Blasters

- (b) One (1) blast cleaner, identified as Bronco Blaster No. 1, constructed in 1995, equipped with a baghouse dust collector, identified as DC-2, exhausting inside the building, capacity: 2,000 pounds of brass products per hour and 12 pounds of brass chips per hour.
- (c) One (1) blast cleaner, identified as Bronco Blaster No. 2, constructed in 1995, equipped with a baghouse dust collector, identified as DC-3, exhausting inside the building, capacity: 2,000 pounds of brass products per hour and 12 pounds of brass chips per hour.
- (d) One (1) blast cleaner, identified as Bronco Blaster No. 3, constructed in 1995, equipped with a baghouse dust collector, identified as DC-6, exhausting inside the building, capacity: 2,000 pounds of brass products per hour and 12 pounds of brass chips per hour.
- (e) One (1) blast cleaner, identified as Bronco Blaster No. 4, constructed in 1999, equipped with a baghouse dust collector, identified as DC-7, exhausting inside the building, capacity: 2,000 pounds of brass products per hour and 12 pounds of brass chips per hour.

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

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

#### D.2.1 PM and PM<sub>10</sub> Emission Limitations [326 IAC 2-2] [326 IAC 2-8-4]

- (a) The PM emissions from the blast cleaners, identified as Bronco Blaster No. 1, Bronco Blaster No. 2, Bronco Blaster No. 3 and Bronco Blaster No. 4, shall be limited to less than 4.10 pounds per hour, each. Compliance with these limits renders the requirements of 326 IAC 2-2 (PSD) not applicable.
- (b) The PM<sub>10</sub> emissions from the blast cleaners, identified as Bronco Blaster No. 1, Bronco Blaster No. 2, Bronco Blaster No. 3 and Bronco Blaster No. 4, shall be limited to less than 3.31 pounds per hour, each. Compliance with these limits renders the requirements of 326 IAC 2-7 (Part 70) not applicable.

#### D.2.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the blast cleaners, identified as Bronco Blasters No. 1, No. 2, No. 3 and No. 4, shall not exceed 4.10 pounds per hour, each, when operating at a process weight rate of 2,000 pounds per hour, each.

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

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:

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

#### D.2.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the four (4) blast cleaners, identified as Bronco Blaster No. 1, Bronco Blaster No. 2, Bronco Blaster No. 3 and Bronco Blaster No. 4, and their control devices.

## Compliance Determination Requirements

### D.2.4 Particulate Control

---

- (a) In order to comply with Conditions D.2.1 and D.2.2, the baghouses for particulate control shall be in operation and control emissions from each blast cleaner at all times that the blast cleaner 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.

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

### D.2.5 Broken or Failed Bag Detection

---

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

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

## SECTION D.3 FACILITY OPERATION CONDITIONS

### Emissions Unit Description: Sand Blasting

- (f) One (1) sand blasting area, constructed in 1995, equipped with a cyclone dust collector, identified as DC-5, exhausting inside the building, capacity: 1,220 pounds per hour.

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

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

#### D.3.1 PM and PM<sub>10</sub> Emission Limitations [326 IAC 2-2] [326 IAC 2-8-4]

- (a) The PM emissions from the sand blasting area shall be limited to less than 2.94 pounds per hour. Compliance with this limit renders the requirements of 326 IAC 2-2 (PSD) not applicable.
- (b) The PM<sub>10</sub> emissions from the sand blasting area shall be limited to less than 2.28 pounds per hour. Compliance with this limit renders the requirements of 326 IAC 2-7 (Part 70) not applicable.

#### D.3.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the sand blasting area shall not exceed 2.94 pounds per hour when operating at a process weight rate of 1,220 pounds per hour.

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

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:

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

#### D.3.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the sand blasting area and its control device.

### Compliance Determination Requirements

#### D.3.4 Particulate Control

In order to comply with Conditions D.3.1 and D.3.2, the cyclone for particulate control shall be in operation and control emissions from the sand blasting area at all times that the sand blasting area is in operation.

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

#### D.3.5 Cyclone Failure Detection

- (a) For a cyclone controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

## SECTION D.4

## FACILITY OPERATION CONDITIONS

### Emissions Unit Description: Insignificant Activities

- (b) Grinding and machining operations controller with fabric filters with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute. [326 IAC 6-3-2]
- (c) Emissions from the Dross Reclaim Station, known as DC-8, of less than 5 lbs per hour or 25 lbs per day of PM, and less than 0.6 tons per year or 3.29 lbs per day of lead. [326 IAC 6-3-2]

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

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

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the insignificant grinding and machining operations, and the dross reclaim station shall be limited by the following equation:

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

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

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

Source Name: Parker Hannifin Corporation  
Source Address: 903 N. Orange Street, Albion, Indiana 46701  
Mailing Address: 300 Parker Drive, Otsego, Michigan 49078  
FESOP No.: F 113-22486-00043

**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 BRANCH  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
Phone: 317-233-0178  
Fax: 317-233-6865**

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

Source Name: Parker Hannifin Corporation  
Source Address: 903 N. Orange Street, Albion, Indiana 46701  
Mailing Address: 300 Parker Drive, Otsego, Michigan 49078  
FESOP No.: F 113-22486-00043

**This form consists of 2 pages**

**Page 1 of 2**

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

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

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

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

**Page 2 of 2**

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

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

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

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

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

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

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

Source Name: Parker Hannifin Corporation  
Source Address: 903 N. Orange Street, Albion, Indiana 46701  
Mailing Address: 300 Parker Drive, Otsego, Michigan 49078  
FESOP No.: F 113-22486-00043

Months: \_\_\_\_\_ to \_\_\_\_\_ Year: \_\_\_\_\_

Page 1 of 2

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

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

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

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

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

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

A certification is not required for this report.

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

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

**Source Background and Description**

<b>Source Name:</b>	<b>Parker Hannifin Corporation</b>
<b>Source Location:</b>	<b>903 N. Orange Street, Albion, Indiana 46701</b>
<b>County:</b>	<b>Noble</b>
<b>SIC Code:</b>	<b>3463, 3491, 3492, 3494</b>
<b>Permit Renewal No.:</b>	<b>F 113-22486-00043</b>
<b>Permit Reviewer:</b>	<b>Edward A. Longenberger</b>

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Parker Hannifin Corporation relating to the operation of a brass foundry and manufacturing source.

**History**

On January 9, 2006, Parker Hannifin Corporation submitted an application to the OAQ requesting to renew its operating permit. Parker Hannifin Corporation was issued a FESOP Renewal, F 113-12766-00043, on October 25, 2001.

**Permitted Emission Units and Pollution Control Equipment**

- (a) Two (2) electric induction melting and casting furnaces, constructed in 1983, equipped with a baghouse dust collector, identified as DC-1, exhausting through Stack DC-1, capacity: 1,800 pounds per hour, total.
- (b) One (1) blast cleaner, identified as Bronco Blaster No. 1, constructed in 1995, equipped with a baghouse dust collector, identified as DC-2, exhausting inside the building, capacity: 2,000 pounds of brass products per hour and 12 pounds of brass chips per hour.
- (c) One (1) blast cleaner, identified as Bronco Blaster No. 2, constructed in 1995, equipped with a baghouse dust collector, identified as DC-3, exhausting inside the building, capacity: 2,000 pounds of brass products per hour and 12 pounds of brass chips per hour.
- (d) One (1) blast cleaner, identified as Bronco Blaster No. 3, constructed in 1995, equipped with a baghouse dust collector, identified as DC-6, exhausting inside the building, capacity: 2,000 pounds of brass products per hour and 12 pounds of brass chips per hour.
- (e) One (1) blast cleaner, identified as Bronco Blaster No. 4, constructed in 1999, equipped with a baghouse dust collector, identified as DC-7, exhausting inside the building, capacity: 2,000 pounds of brass products per hour and 12 pounds of brass chips per hour.
- (f) One (1) sand blasting area, constructed in 1995, equipped with a cyclone dust collector, identified as DC-5, exhausting inside the building, capacity: 1,220 pounds per hour.

**Insignificant Activities**

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

- (b) Grinding and machining operations controlled with fabric filters with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute. [326 IAC 6-3-2]
- (c) Emissions from the Dross Reclaim Station, identified as DC-8, of less than 5 lbs per hour or 25 lbs per day of PM, and less than 0.6 tons per year or 3.29 lbs per day of lead. [326 IAC 6-3-2]
- (d) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour with a total rating of less than 1.0 million British thermal units per hour with no boilers.
- (e) Vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (f) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (g) Forced and induced draft cooling tower system not regulated under a NESHAP.
- (h) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (i) Paved roads and parking lots with public access. [326 IAC 6-4]
- (j) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (k) One (1) emergency diesel generator rated at 250 horsepower.
- (l) One (1) emergency natural gas-fired emergency generator rated at less than 500,000 British thermal units per hour.

### Existing Approvals

Since the issuance of the FESOP 113-12766-00043 on October 25, 2001, the source has not been issued any additional IDEM, OAQ approvals.

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

The following terms and conditions from previous approvals have been revised in this FESOP Renewal:

FESOP 113-12766-00043, Condition D.2.2, which limits particulate emissions pursuant to 326 IAC 6-3-2.

Pursuant to the equation in 326 IAC 6-3-2, the particulate emission rate from each of the four (4) blast cleaners should be limited to 4.10 pounds per hour when operating at a process weight rate of 2,000 pounds per hour, not 4.30 pounds per hour.

### Enforcement Issue

There are no enforcement actions pending.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
DC-1	Furnaces	26.0	2.0	7,000	150

### Emission Calculations

See pages 1 through 6 of Appendix A of this document for detailed emission calculations.

### County Attainment Status

The source is located in Noble County

Pollutant	Status
PM <sub>10</sub>	Attainment
PM <sub>2.5</sub>	Attainment
SO <sub>2</sub>	Attainment
NO <sub>x</sub>	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Noble County has been classified as attainment for PM<sub>2.5</sub>. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM<sub>2.5</sub> emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM<sub>2.5</sub> emissions, it has directed states to regulate PM<sub>10</sub> emissions as a surrogate for PM<sub>2.5</sub> emissions. See the State Rule Applicability – Entire Source section.
- (b) 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 emissions and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. Noble County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (c) Noble County has been classified as attainment or unclassifiable in Indiana for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (e) Fugitive Emissions  
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD applicability.

### Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	tons/year
PM	378
PM <sub>10</sub>	247
SO <sub>2</sub>	0.131
VOC	0.196
CO	0.834
NO <sub>x</sub>	9.77

HAPs	tons/year
Lead (Worst Case Single)	6.65
All Other HAPs	0.018
Total	6.67

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM<sub>10</sub> is greater than one hundred (100) tons per year. The source is subject to the provisions of 326 IAC 2-7. However, the source has agreed to limit their PM<sub>10</sub> emissions to less than Title V levels, therefore the source will be issued a FESOP.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than one hundred (<100) tons per year.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year.

#### Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-7, fugitive emissions are not counted toward the determination of Part 70 applicability.

### Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2005 U.S. EPA Toxic Release Inventory data.

Pollutant	Actual Emissions (tons/year)
PM	Not reported
PM <sub>10</sub>	Not reported
SO <sub>2</sub>	Not reported
VOC	Not reported
CO	Not reported
NO <sub>x</sub>	Not reported
Lead	0.00035

### Potential to Emit After Issuance

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

Process/Emission Unit	Potential to Emit (tons/year)						
	PM	PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	Lead
Melting and Casting (DC-1)	< 16.7	< 20.0	-	-	-	-	0.09
Blaster No. 1 (DC-2)	< 17.9	< 14.5	-	-	-	-	1.49
Blaster No. 2 (DC-3)	< 17.9	< 14.5	-	-	-	-	1.49
Blaster No. 3 (DC-6)	< 17.9	< 14.5	-	-	-	-	1.49
Blaster No. 4 (DC-7)	< 17.9	< 14.5	-	-	-	-	1.49
Sand Blasting (DC-5)	< 12.9	< 10.0	-	-	-	-	-
Insignificant Activities	12.6	11.6	0.131	0.196	0.834	2.77	0.60
<b>Total</b>	<b>&lt; 114.0</b>	<b>&lt; 98.6</b>	<b>0.131</b>	<b>0.196</b>	0.834	<b>2.77</b>	<b>6.65</b>

- (a) The PM values for each of the significant emission units in the above table represent the effect of the hourly limit prescribed by 326 IAC 6-3-2. The PM<sub>10</sub> values represent the limits required to render the requirements of 326 IAC 2-7 not applicable.
- (b) This existing stationary source is not major for PSD because the emissions of each criteria pollutant are less than two hundred fifty (<250) tons per year, and it is not one of the twenty-eight (28) listed source categories.
- (c) Fugitive Emissions  
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are not counted toward the determination of PSD and Emission Offset applicability.

### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (b) The requirements of the New Source Performance Standard for Secondary Brass and Bronze Production Plants, 40 CFR 60.130, Subpart M, are not included in the permit for the electric induction melting and casting furnaces. According to 40 CFR 60.130(a), furnaces from which molten brass or bronze are cast into the shape of finished products, such as foundry furnaces, are not considered to be affected facilities.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit renewal.

### State Rule Applicability – Entire Source

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

The unrestricted potential to emit of PM and PM<sub>10</sub> are each greater than two hundred fifty (250) tons per year. The PM<sub>10</sub> emissions from this source are limited to less than one hundred (100) tons per year and discussed under 326 IAC 2-8 (FESOP) section of this document.

The PM emissions from this source will also be limited to less than two hundred fifty (250) tons per year, as follows:

- (a) The PM emissions from the two (2) electric induction melting and casting furnaces shall be limited to less than a total of 3.82 pounds per hour, equivalent to 16.7 tons per year.
- (b) The PM emissions from each of the four (4) blast cleaners, identified as Bronco Blaster No. 1, Bronco Blaster No. 2, Bronco Blaster No. 3 and Bronco Blaster No. 4, shall be limited to less than 4.10 pounds per hour, equivalent to 17.9 tons per year.
- (c) The PM emissions from the sand blasting area shall be limited to less than a total of 2.94 pounds per hour, equivalent to 12.9 tons per year.

The unrestricted potential to emit of all remaining criteria pollutants (SO<sub>2</sub>, VOC, CO and NO<sub>x</sub>), are each less than two hundred fifty (250) tons per year.

#### 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this brass foundry and manufacturing source will emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

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

This source is located in Noble County and the potential to emit of each criteria pollutant is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

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

Pursuant to this rule, the amount of PM<sub>10</sub> shall be limited to less than one hundred (100) tons per year. The PM<sub>10</sub> emissions from this source shall be limited as follows:

- (a) The PM<sub>10</sub> emissions from the two (2) electric induction melting and casting furnaces shall be limited to less than a total of less than 4.56 pounds per hour, equivalent to less than 20.0 tons per year.
- (b) The PM<sub>10</sub> emissions from each of the four (4) blast cleaners, identified as Bronco Blaster No. 1, Bronco Blaster No. 2, Bronco Blaster No. 3 and Bronco Blaster No. 4, shall be limited to less than 3.31 pounds per hour, equivalent to less than 14.5 tons per year.
- (c) The PM<sub>10</sub> emissions from the sand blasting area shall be limited to less than 2.28 pounds per hour, equivalent to less than 10.0 tons per year.

These limits, along with PM<sub>10</sub> emissions of 10.2 tons per year from insignificant activities, will ensure that the source-wide PM<sub>10</sub> emissions are less than one hundred (100) tons per year. Therefore, the requirements of 326 IAC 2-7, do not apply. These limits also ensure that the requirements of 326 IAC 2-2 (PSD) are not applicable.

### 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 the permit:

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

### State Rule Applicability – Individual Facilities

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

- (a) Pursuant to 326 IAC 6-3-2, the particulate emission rate from the two (2) electric induction melting and casting furnaces shall not exceed a total of 3.82 pounds per hour when operating at a total process weight rate of 1,800 pounds per hour.

According to Appendix A, the particulate emissions after control are 0.041 pounds per hour. Therefore, the two (2) electric induction melting and casting furnaces can comply with this limit. The baghouse shall be in operation at all times either of the two (2) electric induction melting and casting furnaces is in operation, in order to comply with the limit.

- (b) Pursuant to 326 IAC 6-3-2, the particulate emission rate from the blast cleaners, identified as Bronco Blasters No. 1, No. 2, No. 3 and No. 4, shall not exceed 4.10 pounds per hour, each, when operating at a process weight rate of 2,000 pounds per hour, each.

According to Appendix A, the particulate emissions after control are 0.170 pounds per hour, each. Therefore, each of the blast cleaners can comply with this limit. The baghouse shall be in operation at all times the corresponding blast cleaner is in operation, in order to comply with the limit.

- (c) Pursuant to 326 IAC 6-3-2, the particulate emission rate from the sand blasting area shall not exceed 2.94 pounds per hour when operating at a process weight rate of 1,220 pounds per hour.

According to Appendix A, the particulate emissions after control are 0.104 pounds per hour. Therefore, the sand blasting area can comply with this limit. The cyclone shall be in operation at all times the sand blasting area is in operation, in order to comply with the limit.

- (d) The pounds per hour limitations were calculated with the following equation:

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:

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

**State Rule Applicability – Insignificant Activities**

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the grinding and machining operations, and the dross reclaim station shall be limited by the following equation:

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:

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

- (b) The welding consumes less than 625 pounds of weld wire or rod per day. Therefore, pursuant to 326 IAC 6-3-1(b)(9), the welding is exempt from the requirements of 326 IAC 6-3.

Less than 3,400 inches per hour of stock 1-inch thickness or less is cut at the torch cutting. Therefore, pursuant to 326 IAC 6-3-1(b)(10), the torch cutting is exempt from the requirements of 326 IAC 6-3.

- (c) The natural gas combustion units, soldering and brazing insignificant activities have potential to emit of PM of less than 0.551 pounds per hour, therefore pursuant to 326 IAC 6-3-1(b)(14) is exempt from the requirements of 326 IAC 6-3.

**Compliance Determination and Monitoring Requirements**

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

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

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

Control	Parameter	Frequency	Range	Excursions and Exceedances
Baghouse (DC-1)	Water Pressure Drop	Daily	1.0 to 6.0 inches	Response Steps
	Visible Emissions		Normal-Abnormal	

These monitoring conditions are necessary because the baghouse for the two (2) electric induction melting and casting furnaces must operate properly to ensure compliance with 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) and 326 IAC 2-8 (FESOP).

### **Recommendation**

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

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 9, 2006. Additional information was received on October 15, 2007.

### **Conclusion**

The operation of this brass foundry and manufacturing source shall be subject to the conditions of the attached FESOP Renewal No. F 113-22486-00043.

Appendix A: Emissions Calculations

Company Name: Parker Hannifin Corporation  
 Address City IN Zip: 903 N. Orange Street, Albion, Indiana 46701  
 Permit Number: F 113-22486-00043  
 Reviewer: Edward A. Longenberger  
 Date: October 19, 2007

Process	Total PM Collected	Capacity Factor	Control Efficiency	Potential Particulate Emissions		Potential PM-10 Emissions		Potential Particulate Emissions after Control		Potential PM-10 Emissions after Control		Lead Content (%)	Potential Lead Emissions (tons/year)	Potential Lead Emissions after Control (tons/year)
	(lbs/yr)			(%)	(%)	(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)			
Two (2) Electric Induction Furnaces (DC-1)	32,000	90.0%	99.0%	4.10	17.96	4.10	17.96	0.041	0.180	0.041	0.180	0.50%	0.090	0.001

Process	Capacity (lbs/hr)	PM Emission Rate (lbs/ton)	Control Efficiency (%)	Potential Particulate Emissions		Potential PM-10 Emissions		Potential Particulate Emissions after Control		Potential PM-10 Emissions after Control		Lead Content (%)	Potential Lead Emissions (tons/year)	Potential Lead Emissions after Control (tons/year)
				(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)			
			99.0%	for DC-2, DC-3, DC-5, DC-6 and DC-7										
Blaster No. 1 (DC-2)	2,000	17.0	1.7	17.0	74.5	1.70	7.45	0.170	0.745	0.017	0.074	2.00%	1.49	0.015
Blaster No. 2 (DC-3)	2,000	17.0	1.7	17.0	74.5	1.70	7.45	0.170	0.745	0.017	0.074	2.00%	1.49	0.015
Blaster No. 3 (DC-6)	2,000	17.0	1.7	17.0	74.5	1.70	7.45	0.170	0.745	0.017	0.074	2.00%	1.49	0.015
Blaster No. 4 (DC-7)	2,000	17.0	1.7	17.0	74.5	1.70	7.45	0.170	0.745	0.017	0.074	2.00%	1.49	0.015
Subtotal Blaster Nos. 1 - 4	8,000	17.0	1.7	68.0	297.8	6.80	29.8	0.680	2.978	0.068	0.298	2.00%	5.96	0.060
Sand Blasting Area (DC-5)	1,220	17.0	1.7	10.4	45.4	1.04	4.54	0.104	0.454	0.010	0.045	0.00%	0.000	0.000

For the information supplied by the applicant, the calculation of the potential to emit PM-10 utilizing the amount of brass chips consumed per hour is more conservative than the above 1.7 lb/ton emission rate. PM-10 was assumed to equal PM is the brass chip calculation.

Process	Brass Chip Consumption (lbs/hr)	PM-10/PM Ratio (lbs/ton)	Control Efficiency (%)	Potential Particulate Emissions		Potential PM-10 Emissions		Potential Particulate Emissions after Control		Potential PM-10 Emissions after Control		Lead Content (%)	Potential Lead Emissions (tons/year)	Potential Lead Emissions after Control (tons/year)
				(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)			
			99.0%	for DC-2, DC-3, DC-5, DC-6 and DC-7										
Blaster No. 1 (DC-2)	12	1.0	99.0%	12.0	52.6	12.0	52.56	0.120	0.526	0.120	0.526	2.00%	1.05	0.011
Blaster No. 2 (DC-3)	12	1.0	99.0%	12.0	52.6	12.0	52.56	0.120	0.526	0.120	0.526	2.00%	1.05	0.011
Blaster No. 3 (DC-6)	12	1.0	99.0%	12.0	52.6	12.0	52.56	0.120	0.526	0.120	0.526	2.00%	1.05	0.011
Blaster No. 4 (DC-7)	12	1.0	99.0%	12.0	52.6	12.0	52.56	0.120	0.526	0.120	0.526	2.00%	1.05	0.011
Subtotal Blaster Nos. 1 - 4	48	1.0	99.0%	48.0	210.2	48.0	210.2	0.480	2.102	0.480	2.10	2.00%	4.20	0.042

Worst Case PM and PM10 Calculations for the Blasters Nos. 1 - 4

Subtotal Blaster Nos. 1 - 4	Capacity (lbs/hr)	PM Emission Rate (lbs/ton)	PM-10 Emission Rate (lbs/ton)	Potential Particulate Emissions		Potential PM-10 Emissions		Potential Particulate Emissions after Control		Potential PM-10 Emissions after Control		Potential Lead Emissions (tons/year)	Potential Lead Emissions after Control (tons/year)
	(lbs/hr)	(lbs/ton)	(lbs/ton)	(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)		
Subtotal Blaster Nos. 1 - 4	48	1.0	1.0	68.0	297.8	48.0	210.2	0.680	2.98	0.480	2.10	5.96	0.060

Total Significant Emission Units	Potential Particulate Emissions		Potential PM-10 Emissions		Potential Particulate Emissions after Control		Potential PM-10 Emissions after Control		Potential Lead Emissions (tons/year)	Potential Lead Emissions after Control (tons/year)
	(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)	(lbs/hour)	(tons/year)		
Total Significant Emission Units	82.5	361.2	53.1	232.7	0.825	3.61	0.531	2.33	6.05	0.060

**METHODOLOGY**

Emissions data from collected material / mass balance calculations from the original FESOP. Assume all PM = PM-10.  
 Capacity Factor (%) based on production records. This source is a 24 hour, 7 day a week operation.  
 Potential Emissions (lbs/hr) = PM Collected (lbs/hr) / Control Efficiency (%) / Capacity Factor (%)  
 Potential Emissions (tons/year) = Potential Emissions (lbs/hr) x (8760 hours/year) x (1 ton/2000 lbs)  
 PM & PM-10 emission rates from AIRS SCC 03-04-003-40 grinding/cleaning  
 PM/PM-10 = Emission rate (lbs/ton) \* Capacity (lbs/hr) / 2000 lbs/ton  
 Potential Emissions after Control (lbs/hr) = Potential Emissions (lbs/hr) \* (1 - Control Efficiency (%))  
 Potential Emissions after Control (tons/year) = Potential Emissions after Control (lbs/hr) x (8760 hours/year) x (1 ton/2000 lbs)

**Insignificant Activities**

**One (1) emergency diesel generator, rated at 250 hp at 500 hours per year**

Horsepower (hp) Potential Throughput  
hp-hr/500 hours MMBtu/500 hours

250.0	125000.0	875.0
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Emission Factor in lb/hp-hr	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.138	0.138	0.128	1.94	0.157	0.418

HAP	Emission Factor Diesel Engines (lb/MMBtu)	Potential to Emit (tons/yr)
Benzene	0.000933	0.00041
Toluene	0.000409	0.00018
Xylenes	0.000285	0.00012
Propylene	0.002580	0.00113
1,3-Butadiene	0.000039	0.00002
Formaldehyde	0.001180	0.00052
Acetaldehyde	0.000767	0.00034
Acrolein	0.000093	0.00004
Total PAH	0.000168	0.00007
<b>Total HAPs:</b>	<b>0.006454</b>	<b>0.003</b>

**Methodology**

Potential Throughput (hp-hr/yr) = hp \* 500 hr/yr  
 Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr (AP-42, Footnote a, Table 3.3-1)  
 Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2  
 Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] \* 500 hr/yr / (2,000 lb/ton)  
 Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

One (1) emergency natural gas-fired emergency generator rated at less than 500,000 British thermal units per hour at 500 hours per year

Two Stroke Lean Burn Engine

Heat Input Capacity

0.5 mmBtu/hr

Emission Factor in lb/MMBtu	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	0.0384	0.0483	0.0006	3.1700	0.1200	0.3860
Potential Emission in tons/yr	0.0048	0.0060	0.0001	0.3963	0.0150	0.0483

HAP	Emission Factor Two Stroke Lean Burn (lb/MMBtu)	Potential to Emit (tons/yr)
1,1,2,2-Tetrachloroethane	0.00007	0.00001
1,1,2-Trichloroethane	0.00005	0.00001
1,3-Butadiene	0.00082	0.00010
1,3-Dichloropropene	0.00004	0.00001
2,2,4-Trimethylpentane	0.00085	0.00011
Acetaldehyde	0.00776	0.00097
Acrolein	0.00778	0.00097
Benzene	0.00194	0.00024
Biphenyl	0.00000	0.00000
Carbon Tetrachloride	0.00006	0.00001
Chlorobenzene	0.00004	0.00001
Chloroform	0.00005	0.00001
Ethylbenzene	0.00011	0.00001
Ethylene Dibromide	0.00007	0.00001
Formaldehyde	0.05520	0.00690
Methanol	0.00248	0.00031
Methylene Chloride	0.00015	0.00002
n-Hexane	0.00045	0.00006
Naphthalene	0.00010	0.00001
Phenol	0.00004	0.00001
Styrene	0.00005	0.00001
Toluene	0.00096	0.00012
Vinyl Chloride	0.00002	0.00000
Xylene	0.00027	0.00003
<b>Total HAPs:</b>		<b>0.010</b>

**Methodology**

Emission Factors are from AP 42 Tables 3.2-1, 3.2-2 and 3.2-3, revised July 2000

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] \* 500 hr/yr / (2,000 lb/ton)

**Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour with a total rating of less than 1.0 million British thermal units per hour**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr					
1.0	8.76					
	Pollutant					
Emission Factor in lb/MMCF	PM* 1.90	PM10* 7.60	SO2 0.600	NOx 100 **see below	VOC 5.50	CO 84.0
Potential Emission in tons/yr	0.008	0.033	0.003	0.438	0.024	0.368

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.  
\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

	HAPs - Organics				
	Benzene	Dichloro- benzene	Formalde- hyde	Hexane	Toluene
Emission Factor in lb/MMcf	0.00210	0.00120	0.07500	1.80000	0.00340
Potential Emission in tons/yr	0.000009	0.000005	0.000329	0.007884	0.000015

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	Total
Emission Factor in lb/MMcf	0.0005	0.0011	0.0014	0.0004	0.0021	
Potential Emission in tons/yr	0.000002	0.000005	0.000006	0.000002	0.000009	<b>0.008</b>

**Methodology**

All emission factors are based on normal firing.  
 MMBtu = 1,000,000 Btu                      MMCF = 1,000,000 Cubic Feet of Gas  
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu  
 Emission Factors 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  
 The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Dross Reclaim Station, identified as DC-8, of less than 5 lbs per hour or 25 lbs per day of PM, and less than 0.6 tons per year or 3.29 lbs per day of lead.**

	Pollutant		
	PM	PM10	Lead
Potential Emission in tons/yr	4.56	4.56	0.600

Grinding and machining operations controlled with fabric filters with a design grain loading of less than or equal to 0.03 grains per actual cubic foot, before control, and a gas flow rate less than or equal to 4,000 actual cubic feet per minute.

Unit ID	Control Efficiency (%)	Grain Loading per Actual (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)			PM & PM-10 Emission Rate Before Controls (lb/hr)	PM & PM-10 Emission Rate Before Controls (tons/yr)
Grinding & Machining	90.0%	0.0300	4000			1.03	4.51

The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.

Potential Emission in tons/yr	Pollutant	
	PM	PM10
	2.41	2.41

Based on 0.551 pounds per hour

**Paved Roads**

Potential Emission in tons/yr	Pollutant	
	PM	PM10
	5.00	3.00

**Summary of Emissions**

**Note:**

Even though the melting capacity is lower than the total capacities of the blasting machines the potential emissions are calculated based on the capacities of the blasting machines because the source blasts the parts purchased from the outside.

**Uncontrolled Potential Emissions**

	PM (tons/yr)	PM-10 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Lead (tons/yr)	Total HAPs (tons/yr)
<b>Significant Emission Units</b>								
Two (2) Electric Induction Furnaces (DC-1)	17.96	17.96	0.00	0.00	0.00	0.00	0.090	0.090
Blasters Nos. 1 - 4	297.8	210.2	0.00	0.00	0.00	0.00	5.96	5.96
Sand Blasting Area (DC-5)	45.4	4.54	0.00	0.00	0.00	0.00	0.00	0.00
<b>Insignificant Activities</b>								
Emergency Diesel Gen.	0.138	0.138	0.128	1.938	0.157	0.418	0.000	0.003
Emergency Nat. Gas Gen.	0.0048	0.0060	0.0001	0.3963	0.0150	0.0483	0.00	0.010
Natural Gas Combustion	0.008	0.033	0.003	0.438	0.024	0.368	0.000002	0.008
Dross Reclaim Station	4.56	4.56	0.00	0.00	0.00	0.00	0.60	0.60
Grinding & Machining	4.51	4.51	0.00	0.00	0.00	0.00	0.00	0.00
Brazing, Welding, Soldering & Torches	2.41	2.41	0.00	0.00	0.00	0.00	0.00	0.00
Paved Roads	5.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>377.8</b>	<b>247.4</b>	<b>0.131</b>	<b>2.77</b>	<b>0.196</b>	<b>0.834</b>	<b>6.65</b>	<b>6.67</b>

Summary of Emissions

Controlled Potential Emissions

	PM	PM-10	SO2	NOx	VOC	CO	Lead	Total
	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	HAPs (tons/yr)
<b>Significant Emission Units</b>								
Two (2) Electric Induction Furnaces (DC-1)	0.180	0.180	0.000	0.000	0.000	0.000	0.001	0.001
Blasters Nos. 1 - 4	2.978	2.102	0.000	0.000	0.000	0.000	0.060	0.060
Sand Blasting Area (DC-5)	0.454	0.045	0.000	0.000	0.000	0.000	0.000	0.000
<b>Insignificant Activities</b>								
Emergency Diesel Gen.	0.138	0.138	0.128	1.938	0.157	0.418	0.000	0.003
Emergency Nat. Gas Gen.	0.005	0.006	0.000	0.396	0.015	0.048	0.000	0.010
Natural Gas Combustion	0.008	0.033	0.003	0.438	0.024	0.368	0.000	0.008
Dross Reclaim Station	4.56	4.56	0.000	0.000	0.000	0.000	0.600	0.600
Grinding & Machining	0.451	0.451	0.000	0.000	0.000	0.000	0.000	0.000
Brazing, Welding, Soldering & Torches	2.41	2.41	0.000	0.000	0.000	0.000	0.000	0.000
Paved Roads	5.00	3.00	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total</b>	<b>16.2</b>	<b>12.9</b>	<b>0.131</b>	<b>2.77</b>	<b>0.196</b>	<b>0.834</b>	<b>0.661</b>	<b>0.682</b>

Summary of Emissions

Limited Potential Emissions

	PM	PM-10	SO2	NOx	VOC	CO	Lead	Total
	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	HAPs (tons/yr)
<b>Significant Emission Units</b>								
Two (2) Electric Induction Furnaces (DC-1)	16.7	20.0	0.000	0.000	0.000	0.000	0.090	0.090
Blasters Nos. 1 - 4	71.8	58.0	0.000	0.000	0.000	0.000	5.957	5.957
Sand Blasting Area (DC-5)	12.9	10.0	0.000	0.000	0.000	0.000	0.000	0.000
<b>Insignificant Activities</b>								
Emergency Diesel Gen.	0.138	0.138	0.128	1.938	0.157	0.418	0.000	0.003
Emergency Nat. Gas Gen.	0.005	0.006	0.000	0.396	0.015	0.048	0.000	0.010
Natural Gas Combustion	0.008	0.033	0.003	0.438	0.024	0.368	0.000	0.008
Dross Reclaim Station	4.56	4.56	0.000	0.000	0.000	0.000	0.600	0.600
Grinding & Machining	0.451	0.451	0.000	0.000	0.000	0.000	0.000	0.000
Brazing, Welding, Soldering & Torches	2.41	2.41	0.000	0.000	0.000	0.000	0.000	0.000
Paved Roads	5.00	3.00	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total</b>	<b>114.0</b>	<b>98.6</b>	<b>0.131</b>	<b>2.77</b>	<b>0.196</b>	<b>0.834</b>	<b>6.65</b>	<b>6.67</b>

Allowable Rate of Emissions

Description	Process Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)
Two (2) Electric Induction Furnaces (DC-1)	1800	0.90	3.82
Blasters Nos. 1 - 4	2000	1.0	4.10
Sand Blasting Area (DC-5)	1220	0.6	2.94

Each

Methodology

Allowable Emissions = 4.10(Process Weight Rate)<sup>0.67</sup>

**Appendix A: Emission Calculations  
Abrasive Blasting - Confined  
Sand Blasting Area - (DC-5)**

**Company Name: Parker Hannifin Corporation  
Address City IN Zip: 903 N. Orange Street, Albion, Indiana 46701  
Permit Number: F 113-22486-00043  
Reviewer: Edward A. Longenberger  
Date: July 20, 2007**

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Table 2 - Density of Abrasives (lb/ft3)**

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

**Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)**

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

**Calculations**

*Adjusting Flow Rates for Different Abrasives and Nozzle Diameters*

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)  
 FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =  
 D = Density of abrasive (lb/ft3) From Table 2 =  
 D1 = Density of sand (lb/ft3) =  
 ID = Actual nozzle internal diameter (in) =  
 ID1 = Nozzle internal diameter (in) from Table 3 =

1050
99
99
0.312
0.5

**Flow Rate (FR) (lb/hr) = 408.845 per nozzle**

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =  
 FR = Flow Rate (lb/hr) =  
 w = fraction of time of wet blasting =  
 N = number of nozzles =

0.041
408.845
0
1

<b>Uncontrolled PM Emissions</b>	<b>16.76 lb/hr</b>	<b>73.42 ton/yr</b>
<b>Controlled PM Emissions</b>	<b>0.17 lb/hr</b>	<b>0.73 ton/yr</b>
<b>Uncontrolled PM-10 Emissions</b>	<b>11.73 lb/hr</b>	<b>51.39 ton/yr</b>
<b>Controlled PM-10 Emissions</b>	<b>0.12 lb/hr</b>	<b>0.51 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)  
 Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs  
 Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)² x (D/D1)  
 E = EF x FR x (1-w/200) x N