



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: June 8, 2010

RE: Precision Propeller Industries, Inc. / 097 - 28135 - 00664

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

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot12/03/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

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

**Precision Propeller Industries, Inc.
2427 North Ritter Avenue
Indianapolis, IN, Indiana 46218**

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

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

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a MSOP under 326 IAC 2-6.1.

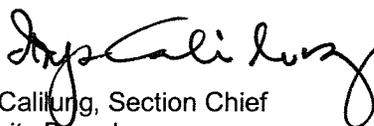
Operation Permit No.: M097-28135-00664	
Issued by:  Iryn Caliturg, Section Chief Permits Branch Office of Air Quality	Issuance Date: June 8, 2010 Expiration Date: June 8, 2015

TABLE OF CONTENTS

A. SOURCE SUMMARY.....	4
A.1 General Information [326 IAC 2-5.1-3(c)][326 IAC 2-6.1-4(a)]	
A.2 Emission Units and Pollution Control Equipment Summary	
B. GENERAL CONDITIONS	7
B.1 Definitions [326 IAC 2-1.1-1]	
B.2 Revocation of Permits [326 IAC 2-1.1-9(5)]	
B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4]	
B.4 Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]	
B.5 Term of Conditions [326 IAC 2-1.1-9.5]	
B.6 Enforceability	
B.7 Severability	
B.8 Property Rights or Exclusive Privilege	
B.9 Duty to Provide Information	
B.10 Reserved	
B.11 Annual Notification [326 IAC 2-6.1-5(a)(5)]	
B.12 Preventive Maintenance Plan [326 IAC 1-6-3]	
B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]	
B.14 Termination of Right to Operate [326 IAC 2-6.1-7(a)]	
B.15 Permit Renewal [326 IAC 2-6.1-7]	
B.16 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]	
B.17 Source Modification Requirement	
B.18 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2] [IC 13-17-3-2][IC 13-30-3-1]	
B.19 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]	
B.20 Annual Fee Payment [326 IAC 2-1.1-7]	
B.21 Credible Evidence [326 IAC 1-1-6]	
C. SOURCE OPERATION CONDITIONS	12
Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]	
C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]	
C.2 Permit Revocation [326 IAC 2-1.1-9]	
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 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]	
Testing Requirements [326 IAC 2-6.1-5(a)(2)]	
C.8 Performance Testing [326 IAC 3-6]	
Compliance Requirements [326 IAC 2-1.1-11]	
C.9 Compliance Requirements [326 IAC 2-1.1-11]	
Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]	
C.10 Compliance Monitoring [326 IAC 2-1.1-11]	
C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]	
C.12 Instrument Specifications [326 IAC 2-1.1-11]	
Corrective Actions and Response Steps	
C.13 Response to Excursions or Exceedances	
C.14 Actions Related to Noncompliance Demonstrated by a Stack Test	

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]	
C.15 Malfunctions Report [326 IAC 1-6-2]	
C.16 General Record Keeping Requirements [326 IAC 2-6.1-5]	
C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]	
D.1. EMISSIONS UNIT OPERATION CONDITIONS.....	19
Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]	
D.1.1 Particulate Matter Limitations except Lake Couty [326 IAC 6.5-1-2]	
Compliance Determination Requirements	
D.1.2 Particulate Control	
Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]	
D.1.3 Parametric Monitoring	
D.1.4 Broken or Failed Bag Detection	
Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]	
D.1.5 Record Keeping Requirements	
D.2. EMISSIONS UNIT OPERATION CONDITIONS.....	23
Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]	
D.2.1 Particulate [326 IAC 6-5.1-2]	
D.2.2 VOC Limit [326 IAC 8-2-9]	
Compliance Determination Requirements	
D.2.3 Volatile Organic Compounds (VOC) [326 IAC 8-1-2][326 IAC 8-1-4]	
Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]	
D.2.4 Record Keeping Requirements	
D.2.5 Reporting Requirements	
D.3. EMISSIONS UNIT OPERATION CONDITIONS.....	25
D.3.1 Particulate [326 IAC 6-2-4]	
E.1. EMISSIONS UNIT OPERATION CONDITIONS.....	27
E.1.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [40 CFR Part 63, Subpart A]	
E.1.2 Iron and steel foundry NESHAP [40 CFR 63.10880]	
Certification	31
Annual Notification	32
Quarterly Report	33
Malfunction Report	34
Affidavit of Construction.....	36
Subpart ZZZZ- National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources.....	Attachment A

SECTION A SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-5.1-3(c)][326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary investment casting facility manufacturing precision propeller.

Source Address:	2427 North Ritter Avenue, Indianapolis, IN 46218
Mailing Address:	2427 North Ritter Avenue, Indianapolis, IN 46218
General Source Phone Number:	317 545-9080
SIC Code:	3324
County Location:	Marion
Source Location Status:	Nonattainment for PM2.5 standard Attainment for all other criteria pollutants
Source Status:	Minor Source Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) Induction melt Furnaces;
 - (1) One (1) electric induction melt furnace, identified as F1, constructed in 1999, with a maximum capacity of 200 lbs/hr of steel, to manufacture propellers, maximum capacity 876 tons per year of steel, exhausting internally.
 - (2) One (1) electric induction melt furnace, identified as F2, constructed in 2007, with a maximum capacity of 600 lbs/hr of steel, to manufacture propellers, maximum capacity 2,628 tons per year of steel, exhausting internally.
- (b) One (1) pouring, casting and cooling line, installed in 1999, uncontrolled, maximum capacity of 0.40 tons per hour, exhausting inside.
- (c) Operations controlled by Baghouse B:
 - (1) One (1) pneumatic shakeout unit, identified as E5, constructed in 1988, with a maximum capacity of 300 lbs of metal per hour, with emissions controlled by baghouse B, and exhausting internally.
 - (2) Four (4) Cutoff & Grinding stations, collectively identified as E6, constructed in 1995, with a maximum capacity of 15 lbs of metal per hour combined, with emissions controlled by baghouse B, and exhausting internally.
 - (3) Three (3) Wheelabrator Airless Shot Blasters, collectively identified as E7, constructed in 1996, equipped with a baghouse B to control particulates, with a maximum process throughput of 668.3 pounds/hr of propellers each including 0.30 pounds of steel shots per hour each, and exhausting internally.

- (d) Operations controlled by Baghouse A:
 - (1) Four (4) Off Hand Grinding Stations to repair propellers, collectively identified as E11, constructed in 1985, with a maximum throughput of 334 lbs of propellers per hour each, with emissions controlled by baghouse A and exhausting internally.
 - (2) One (1) Sandblast Cabinet to repair propellers, identified as E12, constructed in 1995, with a capacity of 20 pieces per hour, with a maximum throughput of 334 lbs. per hour of propellers and 950 lbs. of sand blast media per year, equipped with a baghouse A and exhausting internally.
- (e) Two (2) Vibratory Finishing Operations, collectively identified as E9, constructed in 1986, with a maximum capacity of metal propellers processed less than 100.0 lbs per hour each, to remove burrs and imperfections, equipped with a 1,200 cfm dust collector, identified as E-9 to control particulates, including 7.52 lbs/hr of polishing media each, and exhausting internally.
- (f) One (1) Off Hand Grinding and polishing Station, identified as E14, constructed in 1994, with a capacity of 12 propellers per hour through E14, maximum throughput of 200.4 pounds per hour, equipped with one 1,200 cfm dust collector, identified as E-14 to control particulates and exhausting internally.
- (g) Fifteen (15) Off Hand Grinding Stations, collectively identified as E8, constructed in 1985, with a combined maximum capacity of 3,600 lbs per hour, maximum weight of sixteen and seven tenths (16.7) pounds of each propeller, comprised of the following:
 - (1) Seven (7) grinding stations controlled by a 3,200 cfm dust collector, identified as E7-3200, maximum capacity 240 lbs/hr each, exhausting internally.
 - (2) One (1) grinding stations controlled by a 4,800 cfm dust collector, identified as E1-4800, maximum capacity 240 lbs/hr, exhausting internally.
 - (3) Six (6) grinding stations controlled by a 3,200 cfm dust collector, identified as E6-3200, maximum capacity 240 lbs/hr each, exhausting internally.
 - (4) One (1) grinding and polishing station, controlled by a 1,200 cfm dust collector, identified as E1-1200, maximum capacity 240 lbs/hr, exhausting internally.
- (h) One (1) Propeller Repair Paint Booth, identified as E13, constructed in 1995, equipped with HVLP spray gun, with a capacity of 20 pieces of propellers per hour, with particulate emissions controlled by a dry filter, exhausting to stack S6A.
- (i) Miscellaneous solvent usage:
 - (a) The mold release sprayed on the molds to release the castings with 100% VOC.
 - (b) The catalyst used in the mold making operation, with 26.72% VOC.
 - (c) TEA used in the pH adjustment, with 100% VOC.
- (j) Combustion units:
 - (1) One (1) natural gas-fired Dehumidification System, constructed in 2005, rated at 0.173 MMBtu/hr, to remove moisture from the wax mold, with a maximum capacity of 40 pounds of wax per hour, exhausting to stack S14AA.
 - (2) One (1) natural gas-fired Shellmaker Boiler, identified as E1, constructed in 2005, rated at 0.400 MMBtu/hr, exhausting to stack S14AA.
 - (3) One (1) natural gas-fired Building 7C Dewax Autoclave Boiler, identified as E2,

constructed in 2008, with a maximum heat input capacity of 2.0 MMBtu/ hr, exhausting to stack S7CAA.

- (4) One (1) natural gas-fired Furnace, identified as E3, constructed in 1999, comprised of two (2) pre-heat ovens with a heat input capacity of 1.5 million British thermal units per hour (MMBtu/hr) each, and one (1) afterburner with a heat input capacity of 0.75 million British thermal units per hour (MMBtu/hr), exhausting to stack S7CC.
- (5) One (1) natural gas-fired air make-up Building 7C Roof top unit, identified as E17, constructed in 2001, with 4.0 million British thermal units per hour (MMBtu/hr), emissions exhausting to stack S7CB.
- (6) Numerous natural-gas fired space heaters located throughout the facility, collectively identified as unit E16:

Natural Gas-Fired Unit Locations	Capacity (MMBtu/hr)	Installation Date	Stack ID
Bldg 1 Heater	0.165	1982	S2
Bldg 2 Heater	0.080	1982	S2A
Bldg 3 Heater	0.250	1973	S3
Bldg 4 Heater	0.165	1975	S4
Bldg 5 Heater	0.200	1975	S5
Bldg 6 Heater	0.250	1981	S6
Bldg 7A Heater	0.225	1981	S7A
Bldg 7C Heater (3)	0.250	1981	S7C
Bldg 13 Heater (1)	0.750	1999	S13A
Bldg 14 Warehouse	0.400	2004	S14A
Bldg 14 Restroom Heater	0.060	2004	S14B
Heater (2)	0.40	2003	S7CB

- (k) One (1) MIG/TIG Welding Operation, identified as E10, constructed in 1975, with a maximum capacity of 12 pieces per hour, with a maximum throughput of 200.4 pounds per hour of propellers, and exhausting indoors.

SECTION B GENERAL CONDITIONS

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

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

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

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

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

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

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

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

- (a) This permit, M097-28135-00664, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.5 Term of Conditions [326 IAC 2-1.1-9.5]

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

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

B.6 Enforceability

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

B.7 Severability

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

B.8 Property Rights or Exclusive Privilege

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

B.9 Duty to Provide Information

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

B.10 Reserved

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

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251
- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

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

- (a) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit, for the source as described in 326 IAC 1-6-3.

At a minimum, the PMPs shall include:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and

maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

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

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

- (a) All terms and conditions of permits established prior to M097-28135-00664 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-6.1-7(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least one hundred twenty (120) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

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

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

Request for renewal shall be submitted to:

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

- (b) A timely renewal application is one that is:
 - (1) Submitted at least one hundred twenty (120) days prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-6.1-4(b), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

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

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.17 Source Modification Requirement

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

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

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

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

B.19 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]

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

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

The application which shall be submitted by the Permittee does require an affirmation that the statements in the application are true and complete by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

- (a) The Permittee shall pay annual fees due within thirty (30) calendar days of receipt of a bill from IDEM, OAQ,.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.21 Credible Evidence [326 IAC 1-1-6]

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.

Intentionally left blank.... continued on next page....

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

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

C.3 Opacity [326 IAC 5-1]

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

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

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

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

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project.

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

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

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

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

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

no later than thirty-five (35) days prior to the intended test date.

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

Compliance Requirements [326 IAC 2-1.1-11]

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

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

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

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

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

C.11 Reserved

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

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

C.13 Response to Excursions or Exceedances

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

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

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

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

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

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

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

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made

available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.

- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

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

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

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

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Induction melt Furnaces;
 - (1) One (1) electric induction melt furnace, identified as F1, constructed in 1999, with a maximum capacity of 200 lbs/hr of steel, to manufacture propellers, maximum capacity 876 tons per year of steel, exhausting internally.
 - (2) One (1) electric induction melt furnace, identified as F2, constructed in 2007, with a maximum capacity of 600 lbs/hr of steel, to manufacture propellers, maximum capacity 2,628 tons per year of steel, exhausting internally.
- (b) One (1) pouring, casting and cooling line, installed in 1999, uncontrolled, exhausting inside, maximum capacity of 0.076 tons per year.
- (c) Operations controlled by Baghouse B:
 - (2) One (1) pneumatic shakeout unit, identified as E5, constructed in 1988, with a capacity of 300 lbs of metal per hour, with emissions controlled by baghouse B, and exhausting internally.
 - (2) Four (4) Cutoff & Grinding stations, collectively identified as E6, constructed in 1995, with a capacity of 15 lbs of metal per hour combined, with emissions controlled by baghouse B, and exhausting internally.
 - (3) Three (3) Wheelabrator Airless Shot Blasters, collectively identified as E7, constructed in 1996, equipped with a baghouse B to control particulates, with a maximum process throughput of 668.3 pounds/hr of propellers each, including 0.30 pounds of steel shots per hour each, and exhausting internally.
- (d) Operations controlled by Baghouse A:
 - (1) Four (4) Off Hand Grinding Stations to repair propellers, collectively identified as E11, constructed in 1985, at a maximum throughput of 334 lbs of propellers per hour each, with emissions controlled by baghouse A and exhausting internally.
 - (2) One (1) Sandblast Cabinet to repair propellers, identified as E12, constructed in 1995, with a capacity of 20 pieces per hour, with a maximum throughput of 334 lbs. per hour of propellers and 950 lbs. of sand blast media per year, equipped with a baghouse A and exhausting internally.
- (e) Two (2) Vibratory Finishing Operations, collectively identified as E9, constructed in 1986, with a maximum capacity of metal propellers processed < 100.0 lbs per hour each, to remove burrs and imperfections, equipped with a 1,200 cfm dust collector, identified as E-9 to control particulates, including 7.52 lbs/hr of polishing media each, and exhausting internally.
- (f) One (1) Off Hand Grinding and polishing Station, identified as E14, constructed in 1994, with a capacity of 12 propellers per hour through E14, maximum throughput of 200.4 pounds per hour, equipped with one 1,200 cfm dust collector, identified as E-14 to control particulates and exhausting internally.
- (g) Fifteen (15) Off Hand Grinding Stations, collectively identified as E8, constructed in 1985, with a combined maximum capacity of 3,600 lbs per hour, maximum weight of sixteen and seven

tenths (16.7) pounds of each propeller, comprised of the following:

- (1) Seven (7) grinding stations controlled by a 3,200 cfm dust collector, identified as E7-3200, maximum capacity 240 lbs/hr each, exhausting internally.
- (2) One (1) grinding stations controlled by a 4,800 cfm dust collector, identified as E1-4800, maximum capacity 240 lbs/hr, exhausting internally.
- (3) Six (6) grinding stations controlled by a 3,200 cfm dust collector, identified as E6-3200, maximum capacity 240 lbs/hr each, exhausting internally.
- (4) One (1) grinding and polishing station, controlled by a 1,200 cfm dust collector, identified as E1-1200, maximum capacity 240 lbs/hr, exhausting internally.

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

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

D.1.1 Particulate Matter Limitations except Lake County [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6-5.1-2, particulate matter (PM) emission from each unit listed in the table below shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three hundredths (0.03) grain per dry standard cubic foot (dscf)).

Control Device	Emission Unit
No Control	(1) electric induction melt furnace (F1)
No Control	(1) electric induction melt furnace (F2)
No Control	(1) Pouring, casting and cooling
Baghouse B	(1) pneumatic shakeout unit (E5)
	(4) Cutoff & Grind gate -each (E6)
	(3) Wheelabrator Airless Shot Blasters - each (E7)
Baghouse A	(4) Off Hand Grinding stations-each (E11)
	(1) Sandblast Cabinet (E12)
Dust Collector 1,200 CFM	(1) Off Hand Grinding and polishing station (E14)
Dust Collector 1,200 CFM	(2) Vibratory finish lines - each (E9)
Dust Collector 3,200 CFM	(7) grinding stations - each (E8)
Dust Collector 4,800 CFM	(1) grinding station (E8)
Dust Collector 3,200 CFM	(6) grinding stations - each (E8)
Dust Collector 1,200 CFM	(1) grinding station (E8)

Compliance Determination Requirements

D.1.2 Particulate Control

- (a) In order to comply with Conditions D.1.1, the baghouse B associated with the shakeout (E5), grinding (E6) and shotblasting operations (E7), and the dust collector, E-9 associated with two
- (2) Vibratory Finish Lines (E9) to control particulate emissions, shall be in operation and control emissions from shakeout, grinding and shotblasting operation and the Vibratory Finish Lines (E9) at all times that the units are in operation.

- (b) In the event that baghouse B and the dust collector E-9, 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 2-6.1-5(a)(2)]

D.1.3 Parametric Monitoring

- (a) The Permittee shall record the total pressure drop across baghouse A controlling emission units E5, E6 and E7 and baghouse B controlling emission units E11, E12 at least once per day when associated units are in operation. When for any one reading, the pressure drop across both the baghouses is outside the normal range of 0.2 and 3 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response shall be considered a deviation from this permit.

- (b) The Permittee shall record the total pressure drop across all the dust collectors when an emission unit that it controls is in operation, at least once per day when associated units are in operation. When for any one reading, the pressure drop across the dust collector is outside the normal range of 0.2 and 3.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.1.4 Broken or Failed Bag Detection

For a single compartment baghouses or dust collectors, 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 line. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

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

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

D.1.5 Record Keeping Requirements

- (a) Pursuant to 326 IAC 2-6.1-5 (a), the metal throughput of 669.3 tons per year was determined to be the maximum capacity of the entire source. The Permittee shall maintain records of the total amount of metal processed through the entire source, per twelve (12) consecutive month period with compliance determined at the end of each month. This information shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) To document the compliance status with Condition D.1.3, the Permittee shall maintain daily records of the pressure drop during normal operation. The Permittee shall include in its daily records when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (h) One (1) Propeller Repair Paint Booth, identified as E13, constructed in 1995, equipped with HVLP spray gun, with a capacity of 20 pieces of propellers per hour, with particulate emissions controlled by a dry filter, exhausting to stack S6A.
- (i) Miscellaneous solvent usage:
 - (a) The mold release sprayed on the molds to release the castings with 100% VOC.
 - (b) The catalyst used in the mold making operation, with 26.72% VOC.
 - (c) TEA used in the pH adjustment, with 100% VOC.

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

D.2.1 Particulate [326 IAC 6-5.1-2]

Pursuant to 326 IAC 6.5-1-2(a), particulate matter (PM) emissions from Propeller repair Paint Booth shall be limited to seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (gr/dscf) of exhaust air.

D.2.2 VOC Limit [326 IAC 8-2-9]

The Repair Paint Booth, E13 shall use less than fifteen (15) pounds per day of VOC, including coatings, dilution solvents, and cleaning solvents. Compliance with this limit renders 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations) not applicable.

Compliance Determination Requirements

D.2.3 Volatile Organic Compounds (VOC)[326 IAC 8-1-2] [326 IAC 8-1-4]

Compliance with the VOC content contained in Condition D.2.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

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

D.2.4 Record Keeping Requirements

- (a) To document compliance with Condition D.2.2, the Permittee shall maintain records in accordance with (1) through (2) below. Records maintained for (1) through (3) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in Condition D.2.2.
 - (1) The VOC content of each coating material and solvent used less water.
 - (2) The amount of coating material and solvent used on a daily basis.
 - (A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
 - (B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

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

...

D.2.5 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.2.2 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C – General Reporting contains the Permittee's obligation with regard to the reporting required by this condition.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(j) Combustion units:

- (1) One (1) natural gas-fired Dehumidification System, constructed in 2005, rated at 0.173 MMBtu/hr, to remove moisture from the wax mold, with a maximum capacity of 40 pounds of wax per hour, exhausting to stack S14AA.
- (2) One (1) natural gas-fired Shellmaker Boiler, identified as E1, constructed in 2005, rated at 0.400 MMBtu/hr, exhausting to stack S14AA.
- (3) One (1) natural gas-fired Building 7C Dewax Autoclave Boiler, identified as E2, constructed in 2008, with a maximum heat input capacity of 2.0 MMBtu/ hr, exhausting to stack S7CAA.
- (4) One (1) natural gas-fired Furnace, identified as E3, constructed in 1999, comprised of two (2) pre-heat ovens with a heat input capacity of 1.5 million British thermal units per hour (MMBtu/hr) each, and one (1) afterburner with a heat input capacity of 0.75 million British thermal units per hour (MMBtu/hr), exhausting to stack S7CC.
- (5) One (1) natural gas-fired air make-up Building 7C Roof top unit, identified as E17, constructed in 2001, with 4.0 million British thermal units per hour (MMBtu/hr), emissions exhausting to stack S7CB.
- (6) Numerous natural-gas fired space heaters located throughout the facility, collectively identified as unit E16:

Natural Gas-Fired Unit Locations	Capacity (MMBtu/hr)	Installation Date	Stack ID
Bldg 1 Heater	0.165	1982	S2
Bldg 2 Heater	0.080	1982	S2A
Bldg 3 Heater	0.250	1973	S3
Bldg 4 Heater	0.165	1975	S4
Bldg 5 Heater	0.200	1975	S5
Bldg 6 Heater	0.250	1981	S6
Bldg 7A Heater	0.225	1981	S7A
Bldg 7C Heater (3)	0.250	1981	S7C
Bldg 13 Heater (1)	0.750	1999	S13A
Bldg 14 Warehouse	0.400	2004	S14A
Bldg 14 Restroom Heater	0.060	2004	S14B
Heater (2)	0.40	2003	S7CB

- (j) One (1) MIG/TIG Welding Operation, identified as E10, constructed in 1975, with a maximum capacity of 12 pieces per hour, with a maximum throughput of 200.4 pounds per hour of propellers, and exhausting indoors.

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

D.3.1 Particulate [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, particulate emissions from one (1) natural gas-fired Autoclave boiler E2, and one (1) Shellmaker boiler shall be limited by the following:

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

Pt shall not exceed 0.6 lb/MMBtu for Q less than 10 MMBtu/hr

where Pt = pounds of particulate matter emitted per million Btu (MMBtu) heat input
Q = Total source maximum operation capacity rating in MMBtu/hr

Intentionally left blank.... continued on next page....

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Induction melt Furnaces;
 - (1) One (1) electric induction melt furnace, identified as F1, constructed in 1999, with a maximum capacity of 200 lbs/hr of steel, to manufacture propellers, maximum capacity 876 tons per year of steel, exhausting internally.
 - (2) One (1) electric induction melt furnace, identified as F2, constructed in 2007, with a maximum capacity of 600 lbs/hr of steel, to manufacture propellers, combined capacity 2,628 tons per year of steel, exhausting internally.
- (b) One (1) pouring, casting and cooling line, installed in 1999, uncontrolled, maximum capacity of 0.40 tons per hour, exhausting inside.
- (c) Operations controlled by Baghouse B:
 - (3) One (1) pneumatic shakeout unit, identified as E5, constructed in 1988, with a maximum capacity of 300 lbs of metal per hour, with emissions controlled by baghouse B, and exhausting internally.
 - (2) Four (4) Cutoff & Grinding stations, collectively identified as E6, constructed in 1995, with a maximum capacity of 15 lbs of metal per hour combined, with emissions controlled by baghouse B, and exhausting internally.
 - (3) Three (3) Wheelabrator Airless Shot Blasters, collectively identified as E7, constructed in 1996, equipped with a baghouse B to control particulates, with a maximum process throughput of 668.3 pounds/hr of propellers each including 0.30 pounds of steel shots per hour each, and exhausting internally.
- (d) Operations controlled by Baghouse A:
 - (1) Four (4) Off Hand Grinding Stations to repair propellers, collectively identified as E11, constructed in 1985, with a maximum throughput of 334 lbs of propellers per hour each, with emissions controlled by baghouse A and exhausting internally.
 - (2) One (1) Sandblast Cabinet to repair propellers, identified as E12, constructed in 1995, with a capacity of 20 pieces per hour, with a maximum throughput of 334 lbs. per hour of propellers and 950 lbs. of sand blast media per year, equipped with a baghouse A and exhausting internally.
- (e) Two (2) Vibratory Finishing Operations, collectively identified as E9, constructed in 1986, with a maximum capacity of metal propellers processed less than 100.0 lbs per hour each, to remove burrs and imperfections, equipped with a 1,200 cfm dust collector, identified as E-9 to control particulates, including 7.52 lbs/hr of polishing media each, and exhausting internally.
- (f) One (1) Off Hand Grinding and polishing Station, identified as E14, constructed in 1994, with a capacity of 12 propellers per hour through E14, maximum throughput of 200.4 pounds per hour, equipped with one 1,200 cfm dust collector, identified as E-14 to control particulates and exhausting internally.
- (g) Fifteen (15) Off Hand Grinding Stations, collectively identified as E8, constructed in 1985, with a combined maximum capacity of 3,600 lbs per hour, maximum weight of sixteen and seven tenths (16.7) pounds of each propeller, comprised of the following:

- (1) Seven (7) grinding stations controlled by a 3,200 cfm dust collector, identified as E7-320 maximum capacity 240 lbs/hr each, exhausting internally.
- (2) One (1) grinding stations controlled by a 4,800 cfm dust collector, identified as E1-4800, maximum capacity 240 lbs/hr, exhausting internally.
- (3) Six (6) grinding stations controlled by a 3,200 cfm dust collector, identified as E6-3200, maximum capacity 240 lbs/hr each, exhausting internally.
- (4) One (1) grinding and polishing station, controlled by a 1,200 cfm dust collector, identified as E1-1200, maximum capacity 240 lbs/hr, exhausting internally.
- (h) One (1) Propeller Repair Paint Booth, identified as E13, constructed in 1995, equipped with HVLP spray gun, with a capacity of 20 pieces of propellers per hour, with particulate emissions controlled by a dry filter, exhausting to stack S6A.
- (i) Miscellaneous solvent usage:
 - (a) The mold release sprayed on the molds to release the castings with 100% VOC.
 - (b) The catalyst used in the mold making operation, with 26.72% VOC.
 - (c) TEA used in the pH adjustment, with 100% VOC.
- (j) Combustion units:
 - (1) One (1) natural gas-fired Dehumidification System, constructed in 2005, rated at 0.173 MMBtu/hr, to remove moisture from the wax mold, with a maximum capacity of 40 pounds of wax per hour, exhausting to stack S14AA.
 - (2) One (1) natural gas-fired Shellmaker Boiler, identified as E1, constructed in 2005, rated at 0.400 MMBtu/hr, exhausting to stack S14AA.
 - (3) One (1) natural gas-fired Building 7C Dewax Autoclave Boiler, identified as E2, constructed in 2008, with a maximum heat input capacity of 2.0 MMBtu/ hr, exhausting to stack S7CAA.
 - (4) One (1) natural gas-fired Furnace, identified as E3, constructed in 1999, comprised of two (2) pre-heat ovens with a heat input capacity of 1.5 million British thermal units per hour (MMBtu/hr) each, and one (1) afterburner with a heat input capacity of 0.75 million British thermal units per hour (MMBtu/hr), exhausting to stack S7CC.
 - (5) One (1) natural gas-fired air make-up Building 7C Roof top unit, identified as E17, constructed in 2001, with 4.0 million British thermal units per hour (MMBtu/hr), emissions exhausting to stack S7CB.
 - (6) Numerous natural-gas fired space heaters located throughout the facility, collectively identified as unit E16:

continued...

Natural Gas-Fired Unit Locations	Capacity (MMBtu/hr)	Installation Date	Stack ID
Bldg 1 Heater	0.165	1982	S2
Bldg 2 Heater	0.080	1982	S2A
Bldg 3 Heater	0.250	1973	S3
Bldg 4 Heater	0.165	1975	S4
Bldg 5 Heater	0.200	1975	S5
Bldg 6 Heater	0.250	1981	S6
Bldg 7A Heater	0.225	1981	S7A
Bldg 7C Heater (3)	0.250	1981	S7C
Bldg 13 Heater (1)	0.750	1999	S13A
Bldg 14 Warehouse	0.400	2004	S14A
Bldg 14 Restroom Heater	0.060	2004	S14B
Heater (2)	0.40	2003	S7CB

- (k) One (1) MIG/TIG Welding Operation, identified as E10, constructed in 1975, with a maximum capacity of 12 pieces per hour, with a maximum throughput of 200.4 pounds per hour of propellers, and exhausting indoors.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements

E.1.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [40 CFR Part 63, Subpart A]

- (a) Pursuant to 40 CFR 63 the permittee shall comply with the provisions of 40 CFR 63 Subpart ZZZZZ (Iron and Steel Foundry Area source) for the existing small iron and steel foundries, specified in Attachment A.
- (b) Pursuant to 40 CFR 63.10, the permittee shall submit all required notifications and reports to:
- Indiana Department of Environmental Management
 Compliance and Enforcement Branch, Office of Air Quality
 100 North Senate Avenue
 MC 61-53 IGCN 1003
 Indianapolis, IN 46204-2251

E.1.2 Iron and steel foundry NESHAP [40 CFR 63.10880]

The Permittee which engages in iron and steel foundries area source operation shall comply with the provisions of 40 CFR Part 63, Subpart ZZZZZ (included as Attachment A of this permit). It is an existing affected iron and steel foundry area source because it commenced construction before September 17, 2007. Pursuant to 40 CFR 63.10880 the Permittee shall be in compliance with the following requirements in this NESHAP under small foundries.

The existing iron and steel foundry is subject to the following portions of 40 CFR 63, Subpart ZZZZZ. Non applicable portions of the NESHAP will not be included in the permit.

Applicable portions of the NESHAPs are the following:

40 CFR 63.10880
40 CFR 63.10881(a)(1)
40 CFR 63.10881(a)(2)
40 CFR 63.10881(d)(1)
40 CFR 63.10881(e)
40 CFR 63.10885(a)
40 CFR 63.10885(a)(1)
40 CFR 63.10885(b)(4)
40 CFR 63.10885(c)(4)
40 CFR 63.10890(a)
40 CFR 63.10890(b)
40 CFR 63.10890(c)
40 CFR 63.10890(c)(1)
40 CFR 63.10890(c)(2)
40 CFR 63.10890(d)
40 CFR 63.10890 (e)(1)
40 CFR 63.10890(e)(2)
40 CFR 63.10890(e)(7)
40 CFR 63.10890(f)
40 CFR 63.10890(g)
40 CFR 63.10890(h)
40 CFR 63.10890(i)
40 CFR 63.10905
40 CFR 63.10906

Intentionally left blank.... continued on next page....

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

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

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

Company Name:	Precision Propeller Industries, Inc.
Address:	2427 North Ritter Avenue
City:	Indianapolis, IN 46218
Phone #:	317 545-9080
MSOP #:	M097-28135-00664

I hereby certify that Precision Propeller Industries, Inc. is : still in operation.

no longer in operation.

I hereby certify that Precision Propeller Industries, Inc. is : in compliance with the requirements of MSOP M097-28135-00664.

not in compliance with the requirements of MSOP M097-28135-00664.

Authorized Individual (typed):
Title:
Signature:
Date:

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

Noncompliance:

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

Source Name: Precision Propeller Industries, Inc.
Source Address: 2427 North Ritter Avenue, Indianapolis, IN 46218
Mailing Address: 2427 North Ritter Avenue, Indianapolis, IN 46218
MSOP No.: M097-28135-00664
Facility: Paint Repair Booth
Parameter: VOC usage
Limit: 15 lbs per day

Month: _____ Year: _____

Day		Day	
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16			

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

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

Attach a signed certification to complete this report.

MALFUNCTION REPORT

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

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

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

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

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

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

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

DATE/TIME MALFUNCTION STARTED: ____/____/20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ _____ AM/PM

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

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

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

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

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

326 IAC 1-6-1 Applicability of rule

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

326 IAC 1-2-39 "Malfunction" definition

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

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

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

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

Precision Propeller Industries, Inc.
2427 North Ritter Avenue
Indianapolis, IN, Indiana 46218

Affidavit of Construction

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

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for _____
(Title) (Company Name)
3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____
(Company Name)
4. I hereby certify that Precision Propeller Industries, Inc. 2427 North Ritter Avenue, Indianapolis, IN, Indiana 46218, completed construction of the investment casting facility manufacturing precision propeller on in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on 06/29/2009 and as permitted pursuant to New Source Construction Permit and Minor Source Operating Permit No. M097-28135-00664, Plant ID No. 097-00664 issued on _____.
5. **Permittee, please cross out the following statement if it does not apply:** Additional (operations/facilities) were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit.

Further Affiant said not.

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

Signature _____
Date _____

STATE OF INDIANA)
)SS

COUNTY OF _____)

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

Signature _____
Name _____ (typed or printed)

Attachment A

Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources

Source: 73 FR 252, Jan. 2, 2008, unless otherwise noted.

Applicability and Compliance Dates

§ 63.10880 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate an iron and steel foundry that is an area source of hazardous air pollutant (HAP) emissions.

(b) This subpart applies to each new or existing affected source. The affected source is each iron and steel foundry.

(1) An affected source is existing if you commenced construction or reconstruction of the affected source before September 17, 2007.

(2) An affected source is new if you commenced construction or reconstruction of the affected source on or after September 17, 2007. If an affected source is not new pursuant to the preceding sentence, it is not new as a result of a change in its compliance obligations pursuant to §63.10881(d).

(c) On and after January 2, 2008, if your iron and steel foundry becomes a major source as defined in §63.2, you must meet the requirements of 40 CFR part 63, subpart EEEEE.

(d) This subpart does not apply to research and development facilities, as defined in section 112(c)(7) of the Clean Air Act.

(e) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required by law to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart.

(f) If you own or operate an existing affected source, you must determine the initial applicability of the requirements of this subpart to a small foundry or a large foundry based on your facility's metal melt production for calendar year 2008. If the metal melt production for calendar year 2008 is 20,000 tons or less, your area source is a small foundry. If your metal melt production for calendar year 2008 is greater than 20,000 tons, your area source is a large foundry. You must submit a written notification to the Administrator that identifies your area source as a small foundry or a large foundry no later than January 2, 2009.

(g) If you own or operate a new affected source, you must determine the initial applicability of the requirements of this subpart to a small foundry or a large foundry based on your facility's annual metal melting capacity at startup. If the annual metal melting capacity is 10,000 tons or less, your area source is a small foundry. If the annual metal melting capacity is greater than 10,000 tons, your area source is a large foundry. You must submit a written notification to the Administrator that identifies your area source as a small foundry or a large foundry no later than 120 days after startup.

§ 63.10881 What are my compliance dates?

(a) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions of this subpart by the dates in paragraphs (a)(1) through (3) of this section.

(1) Not later than January 2, 2009 for the pollution prevention management practices for metallic scrap in §63.10885(a) and binder formulations in §63.10886.

(2) Not later than January 4, 2010 for the pollution prevention management practices for mercury in §63.10885(b).

(3) Except as provided in paragraph (d) of this section, not later than 2 years after the date of your large foundry's notification of the initial determination required in §63.10880(f) for the standards and management practices in §63.10895.

(b) If you have a new affected source for which the initial startup date is on or before January 2, 2008, you must achieve compliance with the provisions of this subpart not later than January 2, 2008.

(c) If you own or operate a new affected source for which the initial startup date is after January 2, 2008, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

(d) Following the initial determination for an existing affected source required in §63.10880(f),

(1) Beginning January 1, 2010, if the annual metal melt production of your small foundry exceeds 20,000 tons during the preceding calendar year, you must submit a notification of foundry reclassification to the Administrator within 30 days and comply with the requirements in paragraphs (d)(1)(i) or (ii) of this section, as applicable.

(i) If your small foundry has never been classified as a large foundry, you must comply with the requirements for a large foundry no later than 2 years after the date of your foundry's notification that the annual metal melt production exceeded 20,000 tons.

(ii) If your small foundry had previously been classified as a large foundry, you must comply with the requirements for a large foundry no later than the date of your foundry's most recent notification that the annual metal melt production exceeded 20,000 tons.

(2) If your facility is initially classified as a large foundry (or your small foundry subsequently becomes a large foundry), you must comply with the requirements for a large foundry for at least 3 years before reclassifying your facility as a small foundry, even if your annual metal melt production falls below 20,000 tons. After 3 years, you may reclassify your facility as a small foundry provided your annual metal melt production for the preceding calendar year was 20,000 tons or less. If you reclassify your large foundry as a small foundry, you must submit a notification of reclassification to the Administrator within 30 days and comply with the requirements for a small foundry no later than the date you notify the Administrator of the reclassification. If the annual metal melt production exceeds 20,000 tons during a subsequent year, you must submit a notification of reclassification to the Administrator within 30 days and comply with the requirements for a large foundry no later than the date you notify the Administrator of the reclassification.

(e) Following the initial determination for a new affected source required in §63.10880(g),

(1) If you increase the annual metal melt capacity of your small foundry to exceed 10,000 tons, you must submit a notification of reclassification to the Administrator within 30 days and comply with the requirements for a large foundry no later than the startup date for the new equipment, if applicable, or the date of issuance for your revised State or Federal operating permit.

(2) If your facility is initially classified as a large foundry (or your small foundry subsequently becomes a large foundry), you must comply with the requirements for a large foundry for at least 3 years before reclassifying your facility as a small foundry. After 3 years, you may reclassify your facility as a small foundry provided your most recent annual metal melt capacity is 10,000 tons or less. If you reclassify your large foundry as a small foundry, you must notify the Administrator within 30 days and comply with the requirements for a small foundry no later than the date your melting equipment was removed or taken out of service, if applicable, or the date of issuance for your revised State or Federal operating permit.

Pollution Prevention Management Practices for New and Existing Affected Sources

§ 63.10885 What are my management practices for metallic scrap and mercury switches?

(a) *Metallic scrap management program.* For each segregated metallic scrap storage area, bin or pile, you must comply with the materials acquisition requirements in paragraph (a)(1) or (2) of this section. You must keep a copy of the material specifications onsite and readily available to all personnel with material acquisition duties, and provide a copy to each of your scrap providers. You may have certain scrap subject to paragraph (a)(1) of this section and other scrap subject to paragraph (a)(2) of this section at your facility provided the metallic scrap remains segregated until charge make-up.

(1) *Restricted metallic scrap.* You must prepare and operate at all times according to written material specifications for the purchase and use of only metal ingots, pig iron, slitter, or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, post-consumer oil filters, oily turnings, lead components, chlorinated plastics, or free liquids. For the purpose of this subpart, "free liquids" is defined as material that fails the paint filter test by EPA Method 9095B, "Paint Filter Liquids Test" (revision 2), November 2004 (incorporated by reference—see §63.14). The requirements for no free liquids do not apply if the owner or operator can demonstrate that the free liquid is water that resulted from scrap exposure to rain.

(2) *General iron and steel scrap.* You must prepare and operate at all times according to written material specifications for the purchase and use of only iron and steel scrap that has been depleted (to the extent practicable) of organics and HAP metals in the charge materials used by the iron and steel foundry. The materials specifications must include at minimum the information specified in paragraph (a)(2)(i) or (ii) of this section.

(i) Except as provided in paragraph (a)(2)(ii) of this section, specifications for metallic scrap materials charged to a scrap preheater or metal melting furnace to be depleted (to the extent practicable) of the presence of used oil filters, chlorinated plastic parts, accessible lead-containing components (such as batteries and wheel weights), and a program to ensure the scrap materials are drained of free liquids.

(ii) For scrap charged to a cupola metal melting furnace that is equipped with an afterburner, specifications for metallic scrap materials to be depleted (to the extent practicable) of the presence of chlorinated plastics, accessible lead-containing components (such as batteries and wheel weights), and a program to ensure the scrap materials are drained of free liquids.

(b) *Mercury requirements.* For scrap containing motor vehicle scrap, you must procure the scrap pursuant to one of the compliance options in paragraphs (b)(1), (2), or (3) of this section for each scrap provider, contract, or shipment. For scrap that does not contain motor vehicle scrap, you must procure the scrap pursuant to the requirements in paragraph (b)(4) of this section for each scrap provider, contract, or shipment. You may have one scrap provider, contract, or shipment subject to one compliance provision and others subject to another compliance provision.

(1) *Site-specific plan for mercury switches.* You must comply with the requirements in paragraphs (b)(1)(i) through (v) of this section.

(i) You must include a requirement in your scrap specifications for removal of mercury switches from vehicle bodies used to make the scrap.

(ii) You must prepare and operate according to a plan demonstrating how your facility will implement the scrap specification in paragraph (b)(1)(i) of this section for removal of mercury switches. You must submit the plan to the Administrator for approval. You must operate according to the plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the Administrator or delegated authority within 60 days following disapproval of a plan. You may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the Administrator or delegated authority. The Administrator or delegated authority may change the approval status of the plan upon 90-days written notice based upon the semiannual report or other information. The plan must include:

(A) A means of communicating to scrap purchasers and scrap providers the need to obtain or provide motor vehicle scrap from which mercury switches have been removed and the need to ensure the proper management of the mercury switches removed from the scrap as required under the rules implementing

subtitle C of the Resource Conservation and Recovery Act (RCRA) (40 CFR parts 261 through 265 and 268). The plan must include documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the Administrator or delegated authority, you must provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols;

(B) Provisions for obtaining assurance from scrap providers motor vehicle scrap provided to the facility meet the scrap specification;

(C) Provisions for periodic inspections or other means of corroboration to ensure that scrap providers and dismantlers are implementing appropriate steps to minimize the presence of mercury switches in motor vehicle scrap and that the mercury switches removed are being properly managed, including the minimum frequency such means of corroboration will be implemented; and

(D) Provisions for taking corrective actions (i.e., actions resulting in scrap providers removing a higher percentage of mercury switches or other mercury-containing components) if needed, based on the results of procedures implemented in paragraph (b)(1)(ii)(C) of this section).

(iii) You must require each motor vehicle scrap provider to provide an estimate of the number of mercury switches removed from motor vehicle scrap sent to the facility during the previous year and the basis for the estimate. The Administrator may request documentation or additional information at any time.

(iv) You must establish a goal for each scrap supplier to remove at least 80 percent of the mercury switches. Although a site-specific plan approved under paragraph (b)(1) of this section may require only the removal of convenience light switch mechanisms, the Administrator will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal.

(v) For each scrap provider, you must submit semiannual progress reports to the Administrator that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches removed, and certification that the removed mercury switches were recycled at RCRA-permitted facilities or otherwise properly managed pursuant to RCRA subtitle C regulations referenced in paragraph (b)(1)(ii)(A) of this section. This information can be submitted in aggregate form and does not have to be submitted for each shipment. The Administrator may change the approval status of a site-specific plan following 90-days notice based on the progress reports or other information.

(2) *Option for approved mercury programs.* You must certify in your notification of compliance status that you participate in and purchase motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Administrator based on the criteria in paragraphs (b)(2)(i) through (iii) of this section. If you purchase motor vehicle scrap from a broker, you must certify that all scrap received from that broker was obtained from other scrap providers who participate in a program for the removal of mercury switches that has been approved by the Administrator based on the criteria in paragraphs (b)(2)(i) through (iii) of this section. The National Mercury Switch Recovery Program and the State of Maine Mercury Switch Removal Program are EPA-approved programs under paragraph (b)(2) of this section unless and until the Administrator disapproves the program (in part or in whole) under paragraph (b)(2)(iii) of this section.

(i) The program includes outreach that informs the dismantlers of the need for removal of mercury switches and provides training and guidance for removing mercury switches;

(ii) The program has a goal to remove at least 80 percent of mercury switches from motor vehicle scrap the scrap provider processes. Although a program approved under paragraph (b)(2) of this section may require only the removal of convenience light switch mechanisms, the Administrator will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-

locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal; and

(iii) The program sponsor agrees to submit progress reports to the Administrator no less frequently than once every year that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and certification that the recovered mercury switches were recycled at facilities with permits as required under the rules implementing subtitle C of RCRA (40 CFR parts 261 through 265 and 268). The progress reports must be based on a database that includes data for each program participant; however, data may be aggregated at the State level for progress reports that will be publicly available. The Administrator may change the approval status of a program or portion of a program (e.g., at the State level) following 90-days notice based on the progress reports or on other information.

(iv) You must develop and maintain onsite a plan demonstrating the manner through which your facility is participating in the EPA-approved program.

(A) The plan must include facility-specific implementation elements, corporate-wide policies, and/or efforts coordinated by a trade association as appropriate for each facility.

(B) You must provide in the plan documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the Administrator or delegated authority, you must provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols.

(C) You must conduct periodic inspections or other means of corroboration to ensure that scrap providers are aware of the need for and are implementing appropriate steps to minimize the presence of mercury in scrap from end-of-life vehicles.

(3) *Option for specialty metal scrap.* You must certify in your notification of compliance status and maintain records of documentation that the only materials from motor vehicles in the scrap are materials recovered for their specialty alloy (including, but not limited to, chromium, nickel, molybdenum, or other alloys) content (such as certain exhaust systems) and, based on the nature of the scrap and purchase specifications, that the type of scrap is not reasonably expected to contain mercury switches.

(4) *Scrap that does not contain motor vehicle scrap.* For scrap not subject to the requirements in paragraphs (b)(1) through (3) of this section, you must certify in your notification of compliance status and maintain records of documentation that this scrap does not contain motor vehicle scrap.

§ 63.10886 What are my management practices for binder formulations?

For each furfuryl alcohol warm box mold or core making line at a new or existing iron and steel foundry, you must use a binder chemical formulation that does not use methanol as a specific ingredient of the catalyst formulation. This requirement does not apply to the resin portion of the binder system.

Requirements for New and Existing Affected Sources Classified as Small Foundries

§ 63.10890 What are my management practices and compliance requirements?

(a) You must comply with the pollution prevention management practices for metallic scrap and mercury switches in §63.10885 and binder formulations in §63.10886.

(b) You must submit an initial notification of applicability according to §63.9(b)(2).

(c) You must submit a notification of compliance status according to §63.9(h)(1)(i). You must send the notification of compliance status before the close of business on the 30th day after the applicable

compliance date specified in §63.10881. The notification must include the following compliance certifications, as applicable:

(1) "This facility has prepared, and will operate by, written material specifications for metallic scrap according to §63.10885(a)(1)" and/or "This facility has prepared, and will operate by, written material specifications for general iron and steel scrap according to §63.10885(a)(2)."

(2) "This facility has prepared, and will operate by, written material specifications for the removal of mercury switches and a site-specific plan implementing the material specifications according to §63.10885(b)(1) and/or "This facility participates in and purchases motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Administrator according to §63.10885(b)(2) and has prepared a plan for participation in the EPA-approved program according to §63.10885(b)(2)(iv)" and/or "The only materials from motor vehicles in the scrap charged to a metal melting furnace at this facility are materials recovered for their specialty alloy content in accordance with §63.10885(b)(3) which are not reasonably expected to contain mercury switches" and/or "This facility complies with the requirements for scrap that does not contain motor vehicle scrap in accordance with §63.10885(b)(4)."

(3) "This facility complies with the no methanol requirement for the catalyst portion of each binder chemical formulation for a furfuryl alcohol warm box mold or core making line according to §63.10886."

(d) As required by §63.10(b)(1), you must maintain files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(e) You must maintain records of the information specified in paragraphs (e)(1) through (7) of this section according to the requirements in §63.10(b)(1).

(1) Records supporting your initial notification of applicability and your notification of compliance status according to §63.10(b)(2)(xiv).

(2) Records of your written materials specifications according to §63.10885(a) and records that demonstrate compliance with the requirements for restricted metallic scrap in §63.10885(a)(1) and/or for the use of general scrap in §63.10885(a)(2) and for mercury in §63.10885(b)(1) through (3), as applicable. You must keep records documenting compliance with §63.10885(b)(4) for scrap that does not contain motor vehicle scrap.

(3) If you are subject to the requirements for a site-specific plan for mercury switch removal under §63.10885(b)(1), you must:

(i) Maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered; and

(ii) Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports must include a certification that you have conducted periodic inspections or taken other means of corroboration as required under §63.10885(b)(1)(ii)(C). You must identify which option in paragraph §63.10885(b) applies to each scrap provider, contract, or shipment. You may include this information in the semiannual compliance reports required under paragraph (f) of this section.

(4) If you are subject to the option for approved mercury programs under §63.10885(b)(2), you must maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If you purchase motor vehicle scrap from a broker, you must

maintain records identifying each broker and documentation that all scrap provided by the broker was obtained from other scrap providers who participate in an approved mercury switch removal program.

(5) Records to document use of binder chemical formulation that does not contain methanol as a specific ingredient of the catalyst formulation for each furfuryl alcohol warm box mold or core making line as required by §63.10886. These records must be the Material Safety Data Sheet (provided that it contains appropriate information), a certified product data sheet, or a manufacturer's hazardous air pollutant data sheet.

(6) Records of the annual quantity and composition of each HAP-containing chemical binder or coating material used to make molds and cores. These records must be copies of purchasing records, Material Safety Data Sheets, or other documentation that provides information on the binder or coating materials used.

(7) Records of metal melt production for each calendar year.

(f) You must submit semiannual compliance reports to the Administrator according to the requirements in §63.10(e). The report must clearly identify any deviation from the pollution prevention management practices in §§63.10885 or 63.10886 and the corrective action taken.

(g) You must submit a written notification to the Administrator of the initial classification of your facility as a small foundry as required in §63.10880(f) and (g), as applicable, and for any subsequent reclassification as required in §63.10881(d)(1) or (e), as applicable.

(h) Following the initial determination for an existing affected source as a small foundry, if the annual metal melt production exceeds 20,000 tons during the preceding year, you must comply with the requirements for large foundries by the applicable dates in §63.10881(d)(1)(i) or (d)(1)(ii). Following the initial determination for a new affected source as a small foundry, if you increase the annual metal melt capacity to exceed 10,000 tons, you must comply with the requirements for a large foundry by the applicable dates in §63.10881(e)(1).

(i) You must comply with the following requirements of the General Provisions (40 CFR part 63, subpart A): §§63.1 through 63.5; §63.6(a), (b), (c), and (e)(1); §63.9; §63.10(a), (b)(1), (b)(2)(xiv), (b)(3), (d)(1), (d)(4), and (f); and §§63.13 through 63.16. Requirements of the General Provisions not cited in the preceding sentence do not apply to the owner or operator of a new or existing affected source that is classified as a small foundry.

Requirements for New and Existing Affected Sources Classified as Large Iron and Steel Foundries

§ 63.10895 What are my standards and management practices?

(a) If you own or operate an affected source that is a large foundry as defined in §63.10906, you must comply with the pollution prevention management practices in §§63.10885 and 63.10886, the requirements in paragraphs (b) through (e) of this section, and the requirements in §§63.10896 through 63.10900.

(b) You must operate a capture and collection system for each metal melting furnace at a new or existing iron and steel foundry unless that furnace is specifically uncontrolled as part of an emissions averaging group. Each capture and collection system must meet accepted engineering standards, such as those published by the American Conference of Governmental Industrial Hygienists.

(c) You must not discharge to the atmosphere emissions from any metal melting furnace or group of all metal melting furnaces that exceed the applicable limit in paragraph (c)(1) or (2) of this section. When an alternative emissions limit is provided for a given emissions source, you are not restricted in the selection of which applicable alternative emissions limit is used to demonstrate compliance.

(1) For an existing iron and steel foundry, 0.8 pounds of particulate matter (PM) per ton of metal charged or 0.06 pounds of total metal HAP per ton of metal charged.

(2) For a new iron and steel foundry, 0.1 pounds of PM per ton of metal charged or 0.008 pounds of total metal HAP per ton of metal charged.

(d) If you own or operate a new affected source, you must comply with each control device parameter operating limit in paragraphs (d)(1) and (2) of this section that applies to you.

(1) For each wet scrubber applied to emissions from a metal melting furnace, you must maintain the 3-hour average pressure drop and scrubber water flow rate at or above the minimum levels established during the initial or subsequent performance test.

(2) For each electrostatic precipitator applied to emissions from a metal melting furnace, you must maintain the voltage and secondary current (or total power input) to the control device at or above the level established during the initial or subsequent performance test.

(e) If you own or operate a new or existing iron and steel foundry, you must not discharge to the atmosphere fugitive emissions from foundry operations that exhibit opacity greater than 20 percent (6-minute average), except for one 6-minute average per hour that does not exceed 30 percent.

§ 63.10896 What are my operation and maintenance requirements?

(a) You must prepare and operate at all times according to a written operation and maintenance (O&M) plan for each control device for an emissions source subject to a PM, metal HAP, or opacity emissions limit in §63.10895. You must maintain a copy of the O&M plan at the facility and make it available for review upon request. At a minimum, each plan must contain the following information:

(1) General facility and contact information;

(2) Positions responsible for inspecting, maintaining, and repairing emissions control devices which are used to comply with this subpart;

(3) Description of items, equipment, and conditions that will be inspected, including an inspection schedule for the items, equipment, and conditions. For baghouses that are equipped with bag leak detection systems, the O&M plan must include the site-specific monitoring plan required in §63.10897(d)(2).

(4) Identity and estimated quantity of the replacement parts that will be maintained in inventory; and

(5) For a new affected source, procedures for operating and maintaining a CPMS in accordance with manufacturer's specifications.

(b) You may use any other O&M, preventative maintenance, or similar plan which addresses the requirements in paragraph (a)(1) through (5) of this section to demonstrate compliance with the requirements for an O&M plan.

§ 63.10897 What are my monitoring requirements?

(a) You must conduct an initial inspection of each PM control device for a metal melting furnace at an existing affected source. You must conduct each initial inspection no later than 60 days after your applicable compliance date for each installed control device which has been operated within 60 days of the compliance date. For an installed control device which has not operated within 60 days of the compliance date, you must conduct an initial inspection prior to startup of the control device. Following the initial inspections, you must perform periodic inspections and maintenance of each PM control device for a metal melting furnace at an existing affected source. You must perform the initial and periodic inspections according to the requirements in paragraphs (a)(1) through (4) of this section. You must record the results of each initial and periodic inspection and any maintenance action in the logbook required in §63.10899(b)(13).

(1) For the initial inspection of each baghouse, you must visually inspect the system ductwork and baghouse units for leaks. You must also inspect the inside of each baghouse for structural integrity and fabric filter condition. Following the initial inspections, you must inspect and maintain each baghouse according to the requirements in paragraphs (a)(1)(i) and (ii) of this section.

(i) You must conduct monthly visual inspections of the system ductwork for leaks.

(ii) You must conduct inspections of the interior of the baghouse for structural integrity and to determine the condition of the fabric filter every 6 months.

(2) For the initial inspection of each dry electrostatic precipitator, you must verify the proper functioning of the electronic controls for corona power and rapper operation, that the corona wires are energized, and that adequate air pressure is present on the rapper manifold. You must also visually inspect the system ductwork and electrostatic housing unit and hopper for leaks and inspect the interior of the electrostatic precipitator to determine the condition and integrity of corona wires, collection plates, hopper, and air diffuser plates. Following the initial inspection, you must inspect and maintain each dry electrostatic precipitator according to the requirements in paragraphs (a)(2)(i) through (iii) of this section.

(i) You must conduct a daily inspection to verify the proper functioning of the electronic controls for corona power and rapper operation, that the corona wires are energized, and that adequate air pressure is present on the rapper manifold.

(ii) You must conduct monthly visual inspections of the system ductwork, housing unit, and hopper for leaks.

(iii) You must conduct inspections of the interior of the electrostatic precipitator to determine the condition and integrity of corona wires, collection plates, plate rappers, hopper, and air diffuser plates every 24 months.

(3) For the initial inspection of each wet electrostatic precipitator, you must verify the proper functioning of the electronic controls for corona power, that the corona wires are energized, and that water flow is present. You must also visually inspect the system ductwork and electrostatic precipitator housing unit and hopper for leaks and inspect the interior of the electrostatic precipitator to determine the condition and integrity of corona wires, collection plates, plate wash spray heads, hopper, and air diffuser plates. Following the initial inspection, you must inspect and maintain each wet electrostatic precipitator according to the requirements in paragraphs (a)(3)(i) through (iii) of this section.

(i) You must conduct a daily inspection to verify the proper functioning of the electronic controls for corona power, that the corona wires are energized, and that water flow is present.

(ii) You must conduct monthly visual inspections of the system ductwork, electrostatic precipitator housing unit, and hopper for leaks.

(iii) You must conduct inspections of the interior of the electrostatic precipitator to determine the condition and integrity of corona wires, collection plates, plate wash spray heads, hopper, and air diffuser plates every 24 months.

(4) For the initial inspection of each wet scrubber, you must verify the presence of water flow to the scrubber. You must also visually inspect the system ductwork and scrubber unit for leaks and inspect the interior of the scrubber for structural integrity and the condition of the demister and spray nozzle. Following the initial inspection, you must inspect and maintain each wet scrubber according to the requirements in paragraphs (a)(4)(i) through (iii) of this section.

(i) You must conduct a daily inspection to verify the presence of water flow to the scrubber.

(ii) You must conduct monthly visual inspections of the system ductwork and scrubber unit for leaks.

(iii) You must conduct inspections of the interior of the scrubber to determine the structural integrity and condition of the demister and spray nozzle every 12 months.

(b) For each wet scrubber applied to emissions from a metal melting furnace at a new affected source, you must use a continuous parameter monitoring system (CPMS) to measure and record the 3-hour average pressure drop and scrubber water flow rate.

(c) For each electrostatic precipitator applied to emissions from a metal melting furnace at a new affected source, you must measure and record the hourly average voltage and secondary current (or total power input) using a CPMS.

(d) If you own or operate an existing affected source, you may install, operate, and maintain a bag leak detection system for each negative pressure baghouse or positive pressure baghouse as an alternative to the baghouse inspection requirements in paragraph (a)(1) of this section. If you own or operate a new affected source, you must install, operate, and maintain a bag leak detection system for each negative pressure baghouse or positive pressure baghouse. You must install, operate, and maintain each bag leak detection system according to the requirements in paragraphs (d)(1) through (3) of this section.

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

(i) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.00044 grains per actual cubic foot) or less.

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

(iii) The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over the alarm set point established in the operation and maintenance plan, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) The initial adjustment of the system must, at minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points. If the system is equipped with an alarm delay time feature, you also must adjust the alarm delay time.

(v) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set point, or alarm delay time. Except, once per quarter, you may adjust the sensitivity of the bag leak detection system to account for seasonable effects including temperature and humidity according to the procedures in the monitoring plan required by paragraph (d)(2) of this section.

(vi) For negative pressure baghouses, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector sensor must be installed downstream of the baghouse and upstream of any wet scrubber.

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

(2) You must prepare a site-specific monitoring plan for each bag leak detection system to be incorporated in your O&M plan. You must operate and maintain each bag leak detection system according to the plan at all times. Each plan must address all of the items identified in paragraphs (d)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system.

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

- (iii) Operation of the bag leak detection system including quality assurance procedures.
- (iv) Maintenance of the bag leak detection system including a routine maintenance schedule and spare parts inventory list.
- (v) How the bag leak detection system output will be recorded and stored.
- (vi) Procedures for determining what corrective actions are necessary in the event of a bag leak detection alarm as required in paragraph (d)(3) of this section.

(3) In the event that a bag leak detection system alarm is triggered, you must initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete corrective action as soon as practicable, but no later than 10 calendar days from the date of the alarm. You must record the date and time of each valid alarm, the time you initiated corrective action, the correction action taken, and the date on which corrective action was completed. Corrective actions may include, but are not limited to:

- (i) Inspecting the bag house for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.
- (ii) Sealing off defective bags or filter media.
- (iii) Replacing defective bags or filter media or otherwise repairing the control device.
- (iv) Sealing off a defective baghouse department.
- (v) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.
- (vi) Shutting down the process producing the particulate emissions.

(e) You must make monthly inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in the ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). You must repair any defect or deficiency in the capture system as soon as practicable, but no later than 90 days. You must record the date and results of each inspection and the date of repair of any defect or deficiency.

(f) You must install, operate, and maintain each CPMS or other measurement device according to your O&M plan. You must record all information needed to document conformance with these requirements.

(g) In the event of an exceedance of an established emissions limitation (including an operating limit), you must restore operation of the emissions source (including the control device and associated capture system) to its normal or usual manner or operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. 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 exceedance. You must record the date and time correction action was initiated, the correction action taken, and the date corrective action was completed.

(h) If you choose to comply with an emissions limit in §63.10895(c) using emissions averaging, you must calculate and record for each calendar month the pounds of PM or total metal HAP per ton of metal melted from the group of all metal melting furnaces at your foundry. You must calculate and record the weighted average pounds per ton emissions rate for the group of all metal melting furnaces at the foundry determined from the performance test procedures in §63.10898(d) and (e).

§ 63.10898 What are my performance test requirements?

(a) You must conduct a performance test to demonstrate initial compliance with the applicable emissions limits for each metal melting furnace or group of all metal melting furnaces that is subject to an emissions limit in §63.10895(c) and for each building or structure housing foundry operations that is subject to the opacity limit for fugitive emissions in §63.10895(e). You must conduct the test within 180 days of your compliance date and report the results in your notification of compliance status.

(1) If you own or operate an existing iron and steel foundry, you may choose to submit the results of a prior performance test for PM or total metal HAP that demonstrates compliance with the applicable emissions limit for a metal melting furnace or group of all metal melting furnaces provided the test was conducted within the last 5 years using the methods and procedures specified in this subpart and either no process changes have been made since the test, or you can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance with the applicable emissions limit despite such process changes.

(2) If you own or operate an existing iron and steel foundry and you choose to submit the results of a prior performance test according to paragraph (a)(1) of this section, you must submit a written notification to the Administrator of your intent to use the previous test data no later than 60 days after your compliance date. The notification must contain a full copy of the performance test and contain information to demonstrate, if applicable, that either no process changes have been made since the test, or that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite such process changes.

(3) If you have an electric induction furnace equipped with an emissions control device at an existing foundry, you may use the test results from another electric induction furnace to demonstrate compliance with the applicable PM or total metal HAP emissions limit in §63.10895(c) provided the furnaces are similar with respect to the type of emission control device that is used, the composition of the scrap charged, furnace size, and furnace melting temperature.

(4) If you have an uncontrolled electric induction furnace at an existing foundry, you may use the test results from another electric induction furnace to demonstrate compliance with the applicable PM or total metal HAP emissions limit in §63.10895(c) provided the test results are prior to any control device and the electric induction furnaces are similar with respect to the composition of the scrap charged, furnace size, and furnace melting temperature.

(5) For electric induction furnaces that do not have emission capture systems, you may install a temporary enclosure for the purpose of representative sampling of emissions. A permanent enclosure and capture system is not required for the purpose of the performance test.

(b) You must conduct subsequent performance tests to demonstrate compliance with all applicable PM or total metal HAP emissions limits in §63.10895(c) for a metal melting furnace or group of all metal melting furnaces no less frequently than every 5 years and each time you elect to change an operating limit or make a process change likely to increase HAP emissions.

(c) You must conduct each performance test according to the requirements in §63.7(e)(1), Table 1 to this subpart, and paragraphs (d) through (g) of this section.

(d) To determine compliance with the applicable PM or total metal HAP emissions limit in §63.10895(c) for a metal melting furnace in a lb/ton of metal charged format, compute the process-weighted mass emissions (E_p) for each test run using Equation 1 of this section:

$$E_p = \frac{C \times Q \times T}{P \times K} \quad (\text{Eq 1})$$

Where:

E_p = Process-weighted mass emissions rate of PM or total metal HAP, pounds of PM or total metal HAP per ton (lb/ton) of metal charged;

C = Concentration of PM or total metal HAP measured during performance test run, grains per dry standard cubic foot (gr/dscf);

Q = Volumetric flow rate of exhaust gas, dry standard cubic feet per hour (dscf/hr);

T = Total time during a test run that a sample is withdrawn from the stack during melt production cycle, hr;

P = Total amount of metal charged during the test run, tons; and

K = Conversion factor, 7,000 grains per pound.

(e) To determine compliance with the applicable emissions limit in §63.10895(c) for a group of all metal melting furnaces using emissions averaging,

(1) Determine and record the monthly average charge rate for each metal melting furnace at your iron and steel foundry for the previous calendar month; and

(2) Compute the mass-weighted PM or total metal HAP using Equation 2 of this section.

$$E_c = \frac{\sum_{i=1}^n (E_{pi} \times T_{ti})}{\sum_{i=1}^n T_{ti}} \quad (\text{Eq. 2})$$

Where:

E_c = The mass-weighted PM or total metal HAP emissions for the group of all metal melting furnaces at the foundry, pounds of PM or total metal HAP per ton of metal charged;

E_{pi} = Process-weighted mass emissions of PM or total metal HAP for individual emission unit i as determined from the performance test and calculated using Equation 1 of this section, pounds of PM or total metal HAP per ton of metal charged;

T_{ti} = Total tons of metal charged for individual emission unit i for the calendar month prior to the performance test, tons; and

n = The total number of metal melting furnaces at the iron and steel foundry.

(3) For an uncontrolled electric induction furnace that is not equipped with a capture system and has not been previously tested for PM or total metal HAP, you may assume an emissions factor of 2 pounds per ton of PM or 0.13 pounds of total metal HAP per ton of metal melted in Equation 2 of this section instead of a measured test value. If the uncontrolled electric induction furnace is equipped with a capture system, you must use a measured test value.

(f) To determine compliance with the applicable PM or total metal HAP emissions limit for a metal melting furnace in §63.10895(c) when emissions from one or more regulated furnaces are combined with other non-regulated emissions sources, you may demonstrate compliance using the procedures in paragraphs (f)(1) through (3) of this section.

(1) Determine the PM or total metal HAP process-weighted mass emissions for each of the regulated streams prior to the combination with other exhaust streams or control device.

(2) Measure the flow rate and PM or total metal HAP concentration of the combined exhaust stream both before and after the control device and calculate the mass removal efficiency of the control device using Equation 3 of this section.

$$\% \text{ reduction} = \frac{E_i - E_o}{E_i} \times 100\% \quad (\text{Eq. 3})$$

Where:

E_i = Mass emissions rate of PM or total metal HAP at the control device inlet, lb/hr;

E_o = Mass emissions rate of PM or total metal HAP at the control device outlet, lb/hr.

(3) Meet the applicable emissions limit based on the calculated PM or total metal HAP process-weighted mass emissions for the regulated emissions source using Equation 4 of this section:

$$E_{p1\text{released}} = E_{p1} \times \left(1 - \frac{\% \text{ reduction}}{100} \right) \quad (\text{Eq. 4})$$

Where:

$E_{p1\text{released}}$ = Calculated process-weighted mass emissions of PM (or total metal HAP) predicted to be released to the atmosphere from the regulated emissions source, pounds of PM or total metal HAP per ton of metal charged; and

E_{p1i} = Process-weighted mass emissions of PM (or total metal HAP) in the uncontrolled regulated exhaust stream, pounds of PM or total metal HAP per ton of metal charged.

(g) To determine compliance with an emissions limit for situations when multiple sources are controlled by a single control device, but only one source operates at a time or other situations that are not expressly considered in paragraphs (d) through (f) of this section, you must submit a site-specific test plan to the Administrator for approval according to the requirements in §63.7(c)(2) and (3).

(h) You must conduct each opacity test for fugitive emissions according to the requirements in §63.6(h)(5) and Table 1 to this subpart.

(i) You must conduct subsequent performance tests to demonstrate compliance with the opacity limit in §63.10895(e) no less frequently than every 6 months and each time you make a process change likely to increase fugitive emissions.

(j) In your performance test report, you must certify that the capture system operated normally during the performance test.

(k) You must establish operating limits for a new affected source during the initial performance test according to the requirements in Table 2 of this subpart.

(l) You may change the operating limits for a wet scrubber, electrostatic precipitator, or baghouse if you meet the requirements in paragraphs (l)(1) through (3) of this section.

(1) Submit a written notification to the Administrator of your plan to conduct a new performance test to revise the operating limit.

(2) Conduct a performance test to demonstrate compliance with the applicable emissions limitation in §63.10895(c).

(3) Establish revised operating limits according to the applicable procedures in Table 2 to this subpart.

§ 63.10899 What are my recordkeeping and reporting requirements?

(a) As required by §63.10(b)(1), you must maintain files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(b) In addition to the records required by 40 CFR 63.10, you must keep records of the information specified in paragraphs (b)(1) through (13) of this section.

(1) You must keep records of your written materials specifications according to §63.10885(a) and records that demonstrate compliance with the requirements for restricted metallic scrap in §63.10885(a)(1) and/or for the use of general scrap in §63.10885(a)(2) and for mercury in §63.10885(b)(1) through (3), as applicable. You must keep records documenting compliance with §63.10885(b)(4) for scrap that does not contain motor vehicle scrap.

(2) If you are subject to the requirements for a site-specific plan for mercury under §63.10885(b)(1), you must:

(i) Maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered; and

(ii) Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports must include a certification that you have conducted periodic inspections or taken other means of corroboration as required under §63.10885(b)(1)(ii)(C). You must identify which option in §63.10885(b) applies to each scrap provider, contract, or shipment. You may include this information in the semiannual compliance reports required under paragraph (c) of this section.

(3) If you are subject to the option for approved mercury programs under §63.10885(b)(2), you must maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If your scrap provider is a broker, you must maintain records identifying each of the broker's scrap suppliers and documenting the scrap supplier's participation in an approved mercury switch removal program.

(4) You must keep records to document use of any binder chemical formulation that does not contain methanol as a specific ingredient of the catalyst formulation for each furfuryl alcohol warm box mold or core making line as required by §63.10886. These records must be the Material Safety Data Sheet (provided that it contains appropriate information), a certified product data sheet, or a manufacturer's hazardous air pollutant data sheet.

(5) You must keep records of the annual quantity and composition of each HAP-containing chemical binder or coating material used to make molds and cores. These records must be copies of purchasing records, Material Safety Data Sheets, or other documentation that provide information on the binder or coating materials used.

(6) You must keep records of monthly metal melt production for each calendar year.

(7) You must keep a copy of the operation and maintenance plan as required by §63.10896(a) and records that demonstrate compliance with plan requirements.

(8) If you use emissions averaging, you must keep records of the monthly metal melting rate for each furnace at your iron and steel foundry, and records of the calculated pounds of PM or total metal HAP per ton of metal melted for the group of all metal melting furnaces required by §63.10897(h).

(9) If applicable, you must keep records for bag leak detection systems as follows:

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

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

(iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(10) You must keep records of capture system inspections and repairs as required by §63.10897(e).

(11) You must keep records demonstrating conformance with your specifications for the operation of CPMS as required by §63.10897(f).

(12) You must keep records of corrective action(s) for exceedances and excursions as required by §63.10897(g).

(13) You must record the results of each inspection and maintenance required by §63.10897(a) for PM control devices in a logbook (written or electronic format). You must keep the logbook onsite and make the logbook available to the Administrator upon request. You must keep records of the information specified in paragraphs (b)(13)(i) through (iii) of this section.

(i) The date and time of each recorded action for a fabric filter, the results of each inspection, and the results of any maintenance performed on the bag filters.

(ii) The date and time of each recorded action for a wet or dry electrostatic precipitator (including ductwork), the results of each inspection, and the results of any maintenance performed for the electrostatic precipitator.

(iii) The date and time of each recorded action for a wet scrubber (including ductwork), the results of each inspection, and the results of any maintenance performed on the wet scrubber.

(c) You must submit semiannual compliance reports to the Administrator according to the requirements in §63.10(e). The reports must include, at a minimum, the following information as applicable:

(1) Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective action taken;

(2) Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable); and

(3) Summary information on any deviation from the pollution prevention management practices in §§63.10885 and 63.10886 and the operation and maintenance requirements §63.10896 and the corrective action taken.

(d) You must submit written notification to the Administrator of the initial classification of your new or existing affected source as a large iron and steel facility as required in §63.10880(f) and (g), as applicable, and for any subsequent reclassification as required in §63.10881(d) or (e), as applicable.

§ 63.10900 What parts of the General Provisions apply to my large foundry?

(a) If you own or operate a new or existing affected source that is classified as a large foundry, you must comply with the requirements of the General Provisions (40 CFR part 63, subpart A) according to Table 3 of this subpart.

(b) If you own or operator a new or existing affected source that is classified as a large foundry, your notification of compliance status required by §63.9(h) must include each applicable certification of compliance, signed by a responsible official, in Table 4 of this subpart.

Other Requirements and Information

§ 63.10905 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that cannot be delegated to State, local, or tribal agencies are specified in paragraphs (c)(1) through (6) of this section.

(1) Approval of an alternative non-opacity emissions standard under 40 CFR 63.6(g).

(2) Approval of an alternative opacity emissions standard under §63.6(h)(9).

(3) Approval of a major change to test methods under §63.7(e)(2)(ii) and (f). A "major change to test method" is defined in §63.90.

(4) Approval of a major change to monitoring under §63.8(f). A "major change to monitoring" under is defined in §63.90.

(5) Approval of a major change to recordkeeping and reporting under §63.10(f). A "major change to recordkeeping/reporting" is defined in §63.90.

(6) Approval of a local, State, or national mercury switch removal program under §63.10885(b)(2).

§ 63.10906 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2, and in this section.

Annual metal melt capacity means the lower of the total metal melting furnace equipment melt rate capacity assuming 8,760 operating hours per year summed for all metal melting furnaces at the foundry or, if applicable, the maximum permitted metal melt production rate for the iron and steel foundry calculated on an annual basis. Unless otherwise specified in the permit, permitted metal melt production rates that are not specified on an annual basis must be annualized assuming 24 hours per day, 365 days per year of

operation. If the permit limits the operating hours of the furnace(s) or foundry, then the permitted operating hours are used to annualize the maximum permitted metal melt production rate.

Annual metal melt production means the quantity of metal melted in a metal melting furnace or group of all metal melting furnaces at the iron and steel foundry in a given calendar year. For the purposes of this subpart, metal melt production is determined on the basis on the quantity of metal charged to each metal melting furnace; the sum of the metal melt production for each furnace in a given calendar year is the annual metal melt production of the foundry.

Bag leak detection system means a system that is capable of continuously monitoring relative particulate matter (dust) loadings in the exhaust of a baghouse to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, electrodynamic, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

Binder chemical means a component of a system of chemicals used to bind sand together into molds, mold sections, and cores through chemical reaction as opposed to pressure.

Capture system means the collection of components used to capture gases and fumes released from one or more emissions points and then convey the captured gas stream to a control device or to the atmosphere. A capture system may include, but is not limited to, the following components as applicable to a given capture system design: Duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.

Chlorinated plastics means solid polymeric materials that contain chlorine in the polymer chain, such as polyvinyl chloride (PVC) and PVC copolymers.

Control device means the air pollution control equipment used to remove particulate matter from the effluent gas stream generated by a metal melting furnace.

Cupola means a vertical cylindrical shaft furnace that uses coke and forms of iron and steel such as scrap and foundry returns as the primary charge components and melts the iron and steel through combustion of the coke by a forced upward flow of heated air.

Deviation means any instance in which an affected source or an owner or operator of such an affected source:

- (1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emissions limitation (including operating limits), management practice, or operation and maintenance requirement;
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any iron and steel foundry required to obtain such a permit; or
- (3) Fails to meet any emissions limitation (including operating limits) or management standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Electric arc furnace means a vessel in which forms of iron and steel such as scrap and foundry returns are melted through resistance heating by an electric current flowing through the arcs formed between the electrodes and the surface of the metal and also flowing through the metal between the arc paths.

Electric induction furnace means a vessel in which forms of iron and steel such as scrap and foundry returns are melted through resistance heating by an electric current that is induced in the metal by passing an alternating current through a coil surrounding the metal charge or surrounding a pool of molten metal at the bottom of the vessel.

Exhaust stream means gases emitted from a process through a conveyance as defined in this subpart.

Foundry operations mean all process equipment and practices used to produce metal castings for shipment. *Foundry operations* include: Mold or core making and coating; scrap handling and preheating; metal melting and inoculation; pouring, cooling, and shakeout; shotblasting, grinding, and other metal finishing operations; and sand handling.

Free liquids means material that fails the paint filter liquids test by EPA Method 9095B, Revision 2, November 1994 (incorporated by reference—see §63.14). That is, if any portion of the material passes through and drops from the filter within the 5-minute test period, the material contains *free liquids*.

Fugitive emissions means any pollutant released to the atmosphere that is not discharged through a system of equipment that is specifically designed to capture pollutants at the source, convey them through ductwork, and exhaust them using forced ventilation. *Fugitive emissions* include pollutants released to the atmosphere through windows, doors, vents, or other building openings. *Fugitive emissions* also include pollutants released to the atmosphere through other general building ventilation or exhaust systems not specifically designed to capture pollutants at the source.

Furfuryl alcohol warm box mold or core making line means a mold or core making line in which the binder chemical system used is that system commonly designated as a furfuryl alcohol warm box system by the foundry industry.

Iron and steel foundry means a facility or portion of a facility that melts scrap, ingot, and/or other forms of iron and/or steel and pours the resulting molten metal into molds to produce final or near final shape products for introduction into commerce. Research and development facilities, operations that only produce non-commercial castings, and operations associated with nonferrous metal production are not included in this definition.

Large foundry means, for an existing affected source, an iron and steel foundry with an annual metal melt production greater than 20,000 tons. For a new affected source, *large foundry* means an iron and steel foundry with an annual metal melt capacity greater than 10,000 tons.

Mercury switch means each mercury-containing capsule or switch assembly that is part of a convenience light switch mechanism installed in a vehicle.

Metal charged means the quantity of scrap metal, pig iron, metal returns, alloy materials, and other solid forms of iron and steel placed into a metal melting furnace. Metal charged does not include the quantity of fluxing agents or, in the case of a cupola, the quantity of coke that is placed into the metal melting furnace.

Metal melting furnace means a cupola, electric arc furnace, electric induction furnace, or similar device that converts scrap, foundry returns, and/or other solid forms of iron and/or steel to a liquid state. This definition does not include a holding furnace, an argon oxygen decarburization vessel, or ladle that receives molten metal from a metal melting furnace, to which metal ingots or other material may be added to adjust the metal chemistry.

Mold or core making line means the collection of equipment that is used to mix an aggregate of sand and binder chemicals, form the aggregate into final shape, and harden the formed aggregate. This definition does not include a line for making greensand molds or cores.

Motor vehicle means an automotive vehicle not operated on rails and usually is operated with rubber tires for use on highways.

Motor vehicle scrap means vehicle or automobile bodies, including automobile body hulks, that have been processed through a shredder. *Motor vehicle scrap* does not include automobile manufacturing bundles, or miscellaneous vehicle parts, such as wheels, bumpers, or other components that do not contain mercury switches.

Nonferrous metal means any pure metal other than iron or any metal alloy for which an element other than iron is its major constituent in percent by weight.

On blast means those periods of cupola operation when combustion (blast) air is introduced to the cupola furnace and the furnace is capable of producing molten metal. On blast conditions are characterized by both blast air introduction and molten metal production.

Responsible official means responsible official as defined in §63.2.

Scrap preheater means a vessel or other piece of equipment in which metal scrap that is to be used as melting furnace feed is heated to a temperature high enough to eliminate volatile impurities or other tramp materials by direct flame heating or similar means of heating. Scrap dryers, which solely remove moisture from metal scrap, are not considered to be scrap preheaters for purposes of this subpart.

Scrap provider means the person (including a broker) who contracts directly with an iron and steel foundry to provide motor vehicle scrap. Scrap processors such as shredder operators or vehicle dismantlers that do not sell scrap directly to a foundry are not *scrap providers*.

Scrubber blowdown means liquor or slurry discharged from a wet scrubber that is either removed as a waste stream or processed to remove impurities or adjust its composition or pH.

Small foundry means, for an existing affected source, an iron and steel foundry that has an annual metal melt production of 20,000 tons or less. For a new affected source, *small foundry* means an iron and steel foundry that has an annual metal melt capacity of 10,000 tons or less.

Total metal HAP means, for the purposes of this subpart, the sum of the concentrations of compounds of antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium as measured by EPA Method 29 (40 CFR part 60, appendix A–8). Only the measured concentration of the listed analytes that are present at concentrations exceeding one-half the quantitation limit of the analytical method are to be used in the sum. If any of the analytes are not detected or are detected at concentrations less than one-half the quantitation limit of the analytical method, the concentration of those analytes will be assumed to be zero for the purposes of calculating the total metal HAP for this subpart.

Table 1 to Subpart ZZZZ of Part 63—Performance Test Requirements for New and Existing Affected Sources Classified as Large Foundries

As required in §63.10898(c) and (h), you must conduct performance tests according to the test methods and procedures in the following table:

For . . .	You must . . .	According to the following requirements. . .
1. Each metal melting furnace subject to a PM or total metal HAP limit in §63.10895(c)	a. Select sampling port locations and the number of traverse points in each stack or duct using EPA Method 1 or 1A (40 CFR part 60, appendix A) b. Determine volumetric flow rate of the stack gas using Method 2, 2A, 2C, 2D, 2F, or 2G (40 CFR part 60, appendix A) c. Determine dry molecular weight of the stack gas using EPA Method 3, 3A, or 3B (40	Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) prior to any releases to the atmosphere. i. Collect a minimum sample volume of 60 dscf of gas during each PM sampling run. The PM concentration is determined using only the front-half (probe rinse and filter) of the PM catch. ii. For Method 29, only the

	<p>CFR part 60, appendix A).¹ d. Measure moisture content of the stack gas using EPA Method 4 (40 CFR part 60, A) e. Determine PM concentration using EPA Method 5, 5B, 5D, 5F, or 5I, as applicable or total metal HAP concentration using EPA Method 29 (40 CFR part 60, appendix A)</p>	<p>measured concentration of the listed metal HAP analytes that are present at concentrations exceeding one-half the quantification limit of the analytical method are to be used in the sum. If any of the analytes are not detected or are detected at concentrations less than one-half the quantification limit of the analytical method, the concentration of those analytes is assumed to be zero for the purposes of calculating the total metal HAP.</p>
		<p>iii. A minimum of three valid test runs are needed to comprise a PM or total metal HAP performance test.</p>
		<p>iv. For cupola metal melting furnaces, sample PM or total metal HAP only during times when the cupola is on blast.</p>
		<p>v. For electric arc and electric induction metal melting furnaces, sample PM or total metal HAP only during normal melt production conditions, which may include, but are not limited to the following operations: Charging, melting, alloying, refining, slagging, and tapping.</p>
		<p>vi. Determine and record the total combined weight of tons of metal charged during the duration of each test run. You must compute the process-weighted mass emissions of PM according to Equation 1 of §63.10898(d) for an individual furnace or Equation 2 of §63.10898(e) for the group of all metal melting furnaces at the foundry.</p>

<p>2. Fugitive emissions from buildings or structures housing any iron and steel foundry emissions sources subject to opacity limit in §63.10895(e)</p>	<p>a. Using a certified observer, conduct each opacity test according to EPA Method 9 (40 CFR part 60, appendix A-4) and 40 CFR 63.6(h)(5)</p>	<p>i. The certified observer may identify a limited number of openings or vents that appear to have the highest opacities and perform opacity observations on the identified openings or vents in lieu of performing observations for each opening or vent from the building or structure. Alternatively, a single opacity observation for the entire building or structure may be performed, if the fugitive release points afford such an observation.</p>
		<p>ii. During testing intervals when PM or total metal HAP performance tests, if applicable, are being conducted, conduct the opacity test such that the opacity observations are recorded during the PM or total metal HAP performance tests.</p>
	<p>b. As alternative to Method 9 performance test, conduct visible emissions test by Method 22 (40 CFR part 60, appendix A-7). The test is successful if no visible emissions are observed for 90 percent of the readings over 1 hour. If VE is observed greater than 10 percent of the time over 1 hour, then the facility must conduct another performance test as soon as possible, but no later than 15 calendar days after the Method 22 test, using Method 9 (40 CFR part 60, appendix A-4)</p>	<p>i. The observer may identify a limited number of openings or vents that appear to have the highest visible emissions and perform observations on the identified openings or vents in lieu of performing observations for each opening or vent from the building or structure. Alternatively, a single observation for the entire building or structure may be performed, if the fugitive release points afford such an observation.</p> <p>ii. During testing intervals when PM or total metal HAP performance tests, if applicable, are being conducted, conduct the visible emissions test such that the observations are recorded during the PM or total metal HAP performance tests.</p>

¹You may also use as an alternative to EPA Method 3B (40 CFR part 60, appendix A), the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas, ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses" (incorporated by reference—see §63.14).

Table 2 to Subpart ZZZZZ of Part 63—Procedures for Establishing Operating Limits for New Affected Sources Classified as Large Foundries

As required in §63.10898(k), you must establish operating limits using the procedures in the following table:

For . . .	You must . . .
1. Each wet scrubber subject to the operating limits in §63.10895(d)(1) for pressure drop and scrubber water flow rate.	Using the CPMS required in §63.10897(b), measure and record the pressure drop and scrubber water flow rate in intervals of no more than 15 minutes during each PM or total metal HAP test run. Compute and record the average pressure drop and average scrubber water flow rate for all the valid sampling runs in which the applicable emissions limit is met.
2. Each electrostatic precipitator subject to operating limits in §63.10895(d)(2) for voltage and secondary current (or total power input).	Using the CPMS required in §63.10897(c), measure and record voltage and secondary current (or total power input) in intervals of no more than 15 minutes during each PM or total metal HAP test run. Compute and record the minimum hourly average voltage and secondary current (or total power input) from all the readings for each valid sampling run in which the applicable emissions limit is met.

Table 3 to Subpart ZZZZZ of Part 63—Applicability of General Provisions to New and Existing Affected Sources Classified as Large Foundries

As required in §63.10900(a), you must meet each requirement in the following table that applies to you:

Citation	Subject	Applies to large foundry?	Explanation
63.1	Applicability	Yes.	
63.2	Definitions	Yes.	
63.3	Units and abbreviations	Yes.	
63.4	Prohibited activities	Yes.	
63.5	Construction/reconstruction	Yes.	
63.6(a)–(g)	Compliance with standards and maintenance requirements	Yes.	

63.6(h)	Opacity and visible emissions standards	Yes.	
63.6(i)(i)–(j)	Compliance extension and Presidential compliance exemption	Yes.	
63.7(a)(3), (b)–(h)	Performance testing requirements	Yes.	
63.7(a)(1)–(a)(2)	Applicability and performance test dates	No	Subpart ZZZZZ specifies applicability and performance test dates.
63.8(a)(1)–(a)(3), (b), (c)(1)–(c)(3), (c)(6)–(c)(8), (d), (e), (f)(1)–(f)(6), (g)(1)–(g)(4)	Monitoring requirements	Yes.	
63.8(a)(4)	Additional monitoring requirements for control devices in §63.11	No.	
63.8(c)(4)	Continuous monitoring system (CMS) requirements	No.	
63.8(c)(5)	Continuous opacity monitoring system (COMS) minimum procedures	No.	
63.8(g)(5)	Data reduction	No.	
63.9	Notification requirements	Yes.	
63.10(a), (b)(1)–(b)(2)(xii) – (b)(2)(xiv), (b)(3), (d)(1)–(2), (e)(1)–(2), (f)	Recordkeeping and reporting requirements	Yes.	
63.10(c)(1)–(6), (c)(9)–(15)	Additional records for continuous monitoring systems	No.	
63.10(c)(7)–(8)	Records of excess emissions and parameter monitoring exceedances for CMS	Yes.	
63.10(d)(3)	Reporting opacity or visible emissions observations	Yes.	
63.10(e)(3)	Excess emissions reports	Yes.	
63.10(e)(4)	Reporting COMS data	No.	
63.11	Control device requirements	No.	

63.12	State authority and delegations	Yes.	
63.13–63.16	Addresses of State air pollution control agencies and EPA regional offices. Incorporation by reference. Availability of information and confidentiality. Performance track provisions	Yes.	

Table 4 to Subpart ZZZZZ of Part 63—Compliance Certifications for New and Existing Affected Sources Classified as Large Iron and Steel Foundries

As required by §63.10900(b), your notification of compliance status must include certifications of compliance according to the following table:

For . . .	Your notification of compliance status required by §63.9(h) must include this certification of compliance, signed by a responsible official:
Each new or existing affected source classified as a large foundry and subject to scrap management requirements in §63.10885(a)(1) and/or (2)	“This facility has prepared, and will operate by, written material specifications for metallic scrap according to §63.10885(a)(1)” and/or “This facility has prepared, and will operate by, written material specifications for general iron and steel scrap according to §63.10885(a)(2).”
Each new or existing affected source classified as a large foundry and subject to mercury switch removal requirements in §63.10885(b)	“This facility has prepared, and will operate by, written material specifications for the removal of mercury switches and a site-specific plan implementing the material specifications according to §63.10885(b)(1)” and/or “This facility participates in and purchases motor vehicles scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the EPA Administrator according to §63.10885(b)(2) and have prepared a plan for participation in the EPA approved program according to §63.10885(b)(2)(iv)” and/or “The only materials from motor vehicles in the scrap charged to a metal melting furnace at this facility are materials recovered for their specialty alloy content in accordance with §63.10885(b)(3) which are not reasonably expected to contain mercury switches” and/or “This facility complies with the requirements for scrap that does not contain motor vehicle scrap in accordance with §63.10885(b)(4).”
Each new or existing affected source classified as a large	“This facility complies with the no methanol requirement for the catalyst portion of each binder chemical

foundry and subject to §63.10886	formulation for a furfuryl alcohol warm box mold or core making line according to §63.10886.”
Each new or existing affected source classified as a large foundry and subject to §63.10895(b)	“This facility operates a capture and collection system for each emissions source subject to this subpart according to §63.10895(b).”
Each existing affected source classified as a large foundry and subject to §63.10895(c)(1)	“This facility complies with the PM or total metal HAP emissions limit in §63.10895(c) for each metal melting furnace or group of all metal melting furnaces based on a previous performance test in accordance with §63.10898(a)(1).”
Each new or existing affected source classified as a large foundry and subject to §63.10896(a)	“This facility has prepared and will operate by an operation and maintenance plan according to §63.10896(a).”
Each new or existing (if applicable) affected source classified as a large foundry and subject to §63.10897(d)	“This facility has prepared and will operate by a site-specific monitoring plan for each bag leak detection system and submitted the plan to the Administrator for approval according to §63.10897(d)(2).”

Indiana Department of Environmental Management Office of Air Quality

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

Source Background and Description

Source Name:	Precision Propeller Industries, Inc.
Source Location:	2427 North Ritter Avenue, Indianapolis, IN 46218
County:	Marion
SIC Code:	3324
Operation Permit No.:	M097-28135-00664
Permit Reviewer:	Swarna Prabha

On March 19, 2010, the Office of Air Quality (OAQ) had a notice published in Indianapolis Star, Indiana, stating that Precision Propeller Industries, Inc. had applied for a Minor Source Operating Permit (MSOP) to construct and operate a new stationary investment casting foundry constructing and manufacturing marine precision propellers. The notice also stated that the OAQ proposed to issue a MSOP for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

NOTE: The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes.

On March 12, 2010, and April 15, 2010, Holly Argiris of ERM, and Matt Mosier of city of Indianapolis, submitted comments to IDEM, OAQ on the draft MSOP New Source Review. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

Comment 1:

Please delete the NESHAP Subpart ZZZZZ under Condition A.2 (a), and Section D.1 (a)

...

- (2) One (1) electric induction melt furnace, identified as F2, constructed in 2007, with a maximum capacity of 600 lbs/hr of steel, to manufacture propellers, **maximum** combined capacity 2,628 tons per year of steel, exhausting internally.

~~Under NESHAP Subpart ZZZZZ, the two electric induction furnaces and the fugitive emissions from foundry operations are considered existing affected sources.~~

Regulatory determinations should not be included as part of equipment descriptions. Furthermore, under the rule the "affected source" is the entire foundry and this is an important distinction.

Response to Comment 1:

IDEM agrees with the recommended changes, since under the rule the "affected source" is the entire foundry. The permit has been revised to include the NESHAP Subpart ZZZZZ applicability to the entire source, and not just to part of the equipment. The facility

description, Section A.2(a)(2) is also changed as follows for clarification.

- (2) One (1) electric induction melt furnace, identified as F2, constructed in 2007, with a maximum capacity of 600 lbs/hr of steel, to manufacture propellers, **maximum** combined capacity 2,628 tons per year of steel, exhausting internally.

Comment 2:

TSD, Background (a)

Precision Propeller can make several different size propellers. Please remove reference to two sizes. Calculations were performed for small and large propellers to give worst-case emission estimates, but there is a range of size of propellers that can be made at the facility.

TSD, Background A.2(g)

The throughput is listed twice, please remove the second reference to throughput. Delete or identify 16.7 as the maximum weight of each propeller.

Fifteen (15) Off Hand Grinding Stations, collectively identified as E8, constructed in 1985, with a combined maximum capacity of 3,600 lbs per hour, sixteen and seven tenths (16.7) pounds each, ~~at a combined process throughput of 3,600 pounds per hour~~, comprised of the following:

Response to Comment 2:

IDEM agrees with the recommended changes. The industry manufactures different size of propellers.

The section A.2(g) and Section D.1(g) (Emission Unit Operation Condition) has been changed as follows:

...

- (g) Fifteen (15) Off Hand Grinding Stations, collectively identified as E8, constructed in 1985, with a combined maximum capacity of 3,600 lbs per hour, **maximum weight** of sixteen and seven tenths (16.7) pounds **of each propeller**, ~~at a combined process throughput of 3,600 pounds per hour~~, comprised of the following:

Comment 3:

Please delete the Condition A.2(g), Section D.1 following:

~~Under NESHAP Subpart XXXXXX (Area source standards for Nine Metal Fabrication and Finishing Source), the entire grinding operations and the fugitive emissions are considered existing affected sources.~~

Regulatory determinations should not be included as part of the equipment descriptions. We do not feel that the facility is subject to XXXXXX because they are a steel investment foundry that produces hot cast products. They do not fabricate metal products. Precision Propellers is not primarily engaged in the operations in one of the nine source categories listed in the regulation.

Response to Comment 3:

IDEM agrees with the recommended changes, since under the 40 CFR 63, NESHAP Subpart XXXXXX (Area source standards for Nine Metal Fabrication and Finishing Source), the source is not engaged in the operations in any of the nine source categories listed in paragraphs (a) (1) through (9), the metal fabrication. The source is not involved in the construction of machines and structures from various raw materials, therefore, the SIC code of 3499 is not applicable. The permit has been revised to remove the Subpart XXXXXX

applicability, Attachment B and SIC code of 3499. The SIC code applicable to the source is 3324, which is not listed under NESHAP Subpart XXXXXX (Area source standards for Nine Metal Fabrication and Finishing Source).

Comment 4:

Condition A.2(j), Section D.3, TSD

Please remove the details of each unit and change the description to the following:

Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

Response to Comment 4:

IDEM does not agree with the recommended changes. For rule applicability and the compliance determination, it is necessary to know the year when each emission unit was constructed and the maximum capacity of each combustion equipment. Following changes have been made to the permit.

A.2 Emission Units and Pollution Control Equipment Summary

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

...

~~Stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(24)~~

(j) Combustion units:

- (1) One (1) natural gas-fired Dehumidification System, constructed in 2005, rated at 0.173 MMBtu/hr, to remove moisture from the wax mold, with a maximum capacity of 40 pounds of wax per hour, exhausting to stack S14AA.

...

Comment 5:

Condition A.2, Section D.1, TSD

There are several units that should be listed as insignificant as they meet the following definition of insignificant activity:

(xxiii) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors, and electrostatic precipitators with a design grain loading of less than or equal to three one-hundredths (0.03) grains per actual cubic foot and a gas flow rate less than or equal to four thousand (4,000) actual cubic feet per minute, including the following:

- (AA) Deburring.
- (BB) Buffing.
- (CC) Polishing.
- (DD) Abrasive blasting.
- (EE) Pneumatic conveying.
- (FF) Woodworking operations.

Please move the following units to the insignificant unit listing:

- A.2(e) Two (2) Vibratory Finishing Operations, collectively identified as E9, constructed in 1986, with a maximum capacity of metal propellers processed less than 100.0 lbs per hour each, to remove burrs and imperfections, equipped with a 1,200 cfm dust collector, identified as E-9 to control particulates, including 7.52 lbs/hr of polishing media each, and exhausting internally.

- A.2(f) One (1) Off Hand Grinding and polishing Station, identified as E14, constructed in 1994, with a capacity of 12 propellers per hour through E14, maximum throughput of 200.4 pounds per hour, equipped with one 1,200 cfm dust collector, identified as E-14 to control particulates and exhausting internally.
- A.2(g) Fifteen (15) Off Hand Grinding Stations, collectively identified as E8, constructed in 1985, with a combined maximum capacity of 3,600 lbs per hour, sixteen and seven tenths (16.7) pounds each, at a combined process throughput of 3,600 pounds per hour, comprised of the following:
- (1) Seven (7) grinding stations controlled by a 3,200 cfm dust collector, identified as E7-3200, maximum capacity 240 lbs/hr each, exhausting internally.
 - (3) Six (6) grinding stations controlled by a 3,200 cfm dust collector, identified as E6-3200, maximum capacity 240 lbs/hr each, exhausting internally.
 - (4) One (1) grinding and polishing station, controlled by a 1,200 cfm dust collector, identified as E1-1200, maximum capacity 240 lbs/hr, exhausting internally. Please note that the remaining grinding unit is significant and is listed above in the significant unit listing.

Response to Comment 5:

IDEM does not agree with the recommended changes. The insignificant activities are listed under 326 IAC 2-7-1(21), part 70 Permit program applicability. This source is a Minor Source Operating Permit under 326 IAC 2-6.5-1. There are no insignificant activities defined under this rule. For rule applicability each source description is listed for clarity under pollution control summary.

There is no change due to this comment.

Comment 6:

Condition D.1.1

Precision Propeller does not wish to be limited to 10 tpy. They would prefer to demonstrate compliance with the 0.03 gr/dscf limit stated in 326 IAC 6-5.1-2. Please make the following changes:

~~Pursuant to 326 IAC 6-5-1-1 (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the entire source shall be limited to less than 10 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limit renders 326 IAC 6-5-1-2 (Particulate Matter Limitations Except Lake County) not applicable.~~

Pursuant to 326 IAC 6-5.1-2, particulate matter (PM) emissions shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three hundredths (0.03) grain per dry standard cubic foot (dscf)).

Response to Condition 6:

IDEM agrees with the recommended changes. The following emission units listed in the table are subject to PM emission limitations as specified in 326 IAC 6.5-1-2(a) because they have been constructed at a source which is located in Marion County, not specifically listed in 326 IAC 6.5-8. The Condition D.1.1 has been revised as follows:

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

~~D.1.1 Particulate Matter Limitations except Lake County [326 IAC 6.5-1-2]~~

~~Pursuant to 326 IAC 6.5-1-1 (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the entire source shall be limited to less than 10 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limit renders 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County) not applicable.~~

D.1.1 Particulate Matter Limitations except Lake County [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6-5.1-2, particulate matter (PM) emission from each unit listed in the table below shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three hundredths (0.03) grain per dry standard cubic foot (dscf)).

Control Device	Emission Unit
No Control	(1) electric induction melt furnace (F1)
No Control	(1) electric induction melt furnace (F2)
No Control	(1) Pouring, casting and cooling line
Baghouse B	(1) pneumatic shakeout unit (E5)
	(4) Cutoff & Grind gates- each (E6)
	(3) Wheelabrator Airless Shot Blasters- each (E7)
Baghouse A	(4) Off Hand Grinding and Polishing stations -each (E11)
	(1) Sandblast Cabinet (E12)
Dust Collector 1,200 CFM	(1) Off Hand Grinding and polishing station (E14)
Dust Collector 1,200 CFM	(2) Vibratory finish lines - each (E9)
Dust Collector 3,200 CFM	(7) grinding stations - each (E8)
Dust Collector 4,800 CFM	(1) grinding station (E8)
Dust Collector 3,200 CFM	(6) grinding stations - each (E8)
Dust Collector 1,200 CFM	(1) grinding station (E8)

NOTE: The Particulate Matter Limitations except Lake County [326 IAC 6.5-1-2] is more stringent than the Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2], therefore the 326 IAC 6-3-2 does not apply. The permit condition D.1.2 is removed.

~~D.1.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]~~

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

Control Device	Emission Unit	Process Weight Rate		Allowable Particulate Emissions
		(lbs/hr)	P (tons/hr)	E (lb/hour)
No Control	(1) electric induction melt furnaces (F1)	200	0.1	0.876
No Control	(1) electric induction melt furnaces (F2)	600	0.3	1.83
No Control	(1) Pouring, casting and cooling	800	0.4	0.734
Baghouse B	(1) pneumatic shakeout unit (E5)	300	0.15	4.53
	(4) Cutoff & Grind gate (E6)	<100 (each)	<0.05 (each)	<0.551 (each)
	(3) Wheelabrator Airless Shot Blasters (E7)	668.3 (each)	0.334 (each)	1.97 (each)
....				

Comment 7:

Condition D.1.3

Requiring the PMP for the entire source is too broad. Many of the units are minor emitters, have no controls or are combustion sources. We would like to request that the requirement for PMP include only those units controlled by Baghouse A and B. Please make the following change:

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for ~~the entire source~~ operations controlled by Baghouse A (EU11 and EU12) and Baghouse B (EU5, EU6, and EU7).

Response to Comment 7:

IDEM agrees with the recommended changes. The PMP Condition D.1.3 is removed. The Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) and PMPs shall include a description of the items or conditions that will be inspected and inspection schedule for said items.

NOTE: Please see revised Condition B.12 under additional changes. The permit conditions are re-numbered in Section D.1.

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

~~A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the entire source.~~

Comment 8:

Condition D.1.7(a)

This condition requires the metal throughput be tracked; however, we feel that this requirement is unnecessary as the Vibratory Finish Lines can process a maximum of 669.17 tons of metal per year. They are physically unable to process more metal. Since all calculations are based on the maximum throughput of 669.17 and the source is well below the Major Source threshold, we feel that the requirement to maintain records is unnecessary.

~~Pursuant to 326 IAC 2-6.1-5 (a), the metal throughput of 699.17 tons per year was determined to be the maximum capacity of the entire source. The Permittee shall maintain records of the total amount of metal processed in the two (2) Vibratory Finish Lines, collectively identified as E9, per twelve (12) consecutive month period with compliance determined at the end of each month. This information shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request~~

Response to Comment 8:

The maximum process throughput through the Induction furnaces and other emission units prior to the final finishing operation (Vibratory Finish Lines) is greater than ~~699.17~~ **669.3** tons per year (Vibratory Finish Lines were considered as a bottleneck and in the PTE determination), therefore IDEM requires Precision Propeller Industries to keep record of the total amount of metal processed through the entire source. Also, the maximum total metal throughput is corrected as 669.3 provided by Precision Propeller on March 12, 2010. The Condition D.1.7(a) has been revised as follows after renumbering:

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

D.1.7.5 Record Keeping Requirements

-
- (a) Pursuant to 326 IAC 2-6.1-5 (a), the metal throughput of ~~699.17~~ **669.3** tons per year was determined to be the maximum capacity of the entire source. The Permittee shall maintain records of the total amount of metal processed ~~in the two (2) Vibratory Finish Lines, collectively identified as E9~~ **through the entire source**, per twelve (12) consecutive month period with compliance determined at the end of each month. This information shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.

Comment 9:

Condition D.2.1, TSD

Precision Propeller is subject to the 0.03 gr/dscf limit stated in 326 IAC 6-5.1-2. Please make the following changes:

D.2.1 Particulate Matter Limitations except Lake County [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6-5.1-2, particulate matter (PM) emissions shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three hundredths (0.03) grain per dry standard cubic foot (dscf)).

D.2.1 Particulate [326 IAC 6-3-2(d)]

-
- ~~(a) Pursuant to 326 IAC 6-3-2(d), Particulates from the surface coating shall be controlled by a dry particulate filter, waterwash, or an equivalent control device, and the Permittee shall operate the control device in accordance with manufacturer's specifications.~~

- (b) ~~If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:~~
- (1) ~~Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.~~
- (2) ~~Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.~~
- (c) ~~If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.~~

Response to Comment 9:

IDEM agrees with the recommended changes. The emission unit " Propeller repair Paint Booth and Miscellaneous solvent usage" is subject to PM emission limitations as specified in 326 IAC 6.5-1-2(a) because the source is located in Marion County, not specifically listed in 326 IAC 6.5-8. The Condition D.2.1 has been changed as follows:

D.2.1 Particulate [326 IAC 6-5.1-2]

Pursuant to 326 IAC 6.5-1-2(a), particulate matter (PM) emissions from Propeller repair Paint Booth shall be limited to seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (gr/dscf) of exhaust air.

Comment 10:

Condition D.3.1

The condition references the wrong rule citation. Please change to the following:

D.3.1 Particulate [326 IAC ~~6-4-26-2-4~~]

Response to Comment 10:

IDEM agrees with the recommended change, the rule applicability inadvertently listed as 326 IAC 6-4-2 and has been corrected as follows:

D.3.1 Particulate [~~326 IAC 6-4-2~~][326 IAC 6-2-4]

Pursuant to [~~326 IAC 6-4-2~~]326 IAC 6-2-4, particulate emissions from one (1) natural gas-fired Autoclave boiler E2, and one (1) Shellmaker boiler shall be limited by the following:

...
NOTE: The table of content has also been revised.

Comment 11:

Section E.1

The Section incorrectly identifies the MACT Standard as Subpart ZZZZZZ; however, the correct MACT Standard for Iron and Steel Foundry Area MACT Sources is ZZZZZ (5 Zs, not 6). Please make the change throughout the Section.

Condition E.1.2

The entire facility is subject to Subpart ZZZZZ, not just the two electric induction furnaces.

Also, the source is classified as a small foundry, not a large foundry. Please remove reference to the large foundry. Finally, we have revised the list of applicable requirements. Please make the following changes:

~~Pursuant to 40 CFR Part 63, the two (2) electric induction furnaces, are subject to 40 CFR Part 63, Subpart ZZZZZZ.~~ The permittee which engages in iron and steel foundries area source operation shall comply with the provisions of 40 CFR Part 63, Subpart ZZZZZZ (included as Attachment A of this permit). It is an existing affected iron and steel foundry area source because it commenced construction before September 17, 2007. Pursuant to 40 CFR 63.10880 the Permittee shall be in compliance with the following requirements in this NESHAP ~~under large foundries.~~

The existing iron and steel foundry is subject to the following portions of 40 CFR 63, Subpart ZZZZZZ. Non applicable portions of the NESHAP will not be included in the permit.

Applicable portions of the NESHAPs are the following:

~~40 CFR 63.10880(b)(1)~~
~~40 CFR 63.10880(f)~~
40 CFR 63.10881(a)(1)
40 CFR 63.10881(a)(2)
40 CFR 63.10881(d)(1)
~~40 CFR 63.10881(d)(i)~~
40 CFR 63.10881(e)
40 CFR 63.10885(a)
40 CFR 63.10885(a)(1)
~~40 CFR 63.10885(a)(2)~~
40 CFR 63.10885(b)(4)
40 CFR 63.10885(c)(4)
40 CFR 63.10890(a)
40 CFR 63.10890(b)
40 CFR 63.10890(c)
40 CFR 63.10890(c)(1)
40 CFR 63.10890(c)(2)
40 CFR 63.10890(d)
40 CFR 63.10890 (e)(1)
40 CFR 63.10890(e)(2)
40 CFR 63.10890(e)(7)
40 CFR 63.10890(f)
40 CFR 63.10890(g)
40 CFR 63.10890(h)
40 CFR 63.10890(i)
40 CFR 63.108905
40 CFR 63.108906

Response to Comment 11:

The MACT standard is correctly identified as NESHAP 40 CFR 63, Subpart ZZZZZ in the permit and TSD. The applicant reviewed the permit before the publication of the public notice. IDEM agrees with the recommended change that the NESHAP 40 CFR 63, Subpart ZZZZZ for existing iron and steel foundry is applicable to the entire source. The applicability portions of the NESHAP are changed as above in Conditions E.1, and E.1.2 to include the small foundries as follows:

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Induction melt Furnaces;
 - (1) One (1) electric induction melt furnace, identified as F1, constructed in 1999, with a maximum capacity of 200 lbs/hr of steel, to manufacture propellers, maximum capacity 876 tons per year of steel, exhausting internally.
 - (2) One (1) electric induction melt furnace, identified as F2, constructed in 2007, with a maximum capacity of 600 lbs/hr of steel, to manufacture propellers, maximum capacity 2,628 tons per year of steel, exhausting internally.
- (b) **One (1) pouring, casting and cooling line, installed in 1999, uncontrolled, maximum capacity of 0.40 tons per hour, exhausting inside.**
- (c) **Operations controlled by Baghouse B:**
 - (1) **One (1) pneumatic shakeout unit, identified as E5, constructed in 1988, with a maximum capacity of 300 lbs of metal per hour, with emissions controlled by baghouse B, and exhausting internally.**
 - (2) **Four (4) Cutoff & Grinding stations, collectively identified as E6, constructed in 1995, with a maximum capacity of 15 lbs of metal per hour combined, with emissions controlled by baghouse B, and exhausting internally.**
 - (3) **Three (3) Wheelabrator Airless Shot Blasters, collectively identified as E7, constructed in 1996, equipped with a baghouse B to control particulates, with a maximum process throughput of 668.3 pounds/hr of propellers each including 0.30 pounds of steel shots per hour each, and exhausting internally.**
- (d) **Operations controlled by Baghouse A:**
 - (1) **Four (4) Off Hand Grinding Stations to repair propellers, collectively identified as E11, constructed in 1985, with a maximum throughput of 334 lbs of propellers per hour each, with emissions controlled by baghouse A and exhausting internally.**
 - (2) **One (1) Sandblast Cabinet to repair propellers, identified as E12, constructed in 1995, with a capacity of 20 pieces per hour, with a maximum throughput of 334 lbs. per hour of propellers and 950 lbs. of sand blast media per year, equipped with a baghouse A and exhausting internally.**
- (e) **Two (2) Vibratory Finishing Operations, collectively identified as E9, constructed in 1986, with a maximum capacity of metal propellers processed less than 100.0 lbs per hour each, to remove burrs and imperfections, equipped with a 1,200 cfm dust collector, identified as E-9 to control particulates, including 7.52 lbs/hr of polishing media each, and exhausting internally.**
- (f) **One (1) Off Hand Grinding and polishing Station, identified as E14, constructed in 1994, with a capacity of 12 propellers per hour through E14, maximum throughput of 200.4 pounds per hour, equipped with one 1,200 cfm dust collector, identified as E-14 to control particulates and exhausting internally.**

- (g) **Fifteen (15) Off Hand Grinding Stations, collectively identified as E8, constructed in 1985, with a combined maximum capacity of 3,600 lbs per hour, maximum weight of sixteen and seven tenths (16.7) pounds of each propeller, comprised of the following:**
- (1) **Seven (7) grinding stations controlled by a 3,200 cfm dust collector, identified as E8-3200, maximum capacity 240 lbs/hr each, exhausting internally.**
 - (2) **One (1) grinding stations controlled by a 4,800 cfm dust collector, identified as E1- 4800, maximum capacity 240 lbs/hr, exhausting internally.**
 - (3) **Six (6) grinding stations controlled by a 3,200 cfm dust collector, identified as E6-3200, maximum capacity 240 lbs/hr each, exhausting internally.**
 - (4) **One (1) grinding and polishing station, controlled by a 1,200 cfm dust collector, identified as E1-1200, maximum capacity 240 lbs/hr, exhausting internally.**
- (h) **One (1) Propeller Repair Paint Booth, identified as E13, constructed in 1995, equipped with HVLP spray gun, with a capacity of 20 pieces of propellers per hour, with particulate emissions controlled by a dry filter, exhausting to stack S6A.**
- (i) **Miscellaneous solvent usage:**
- (a) **The mold release sprayed on the molds to release the castings with 100% VOC.**
 - (b) **The catalyst used in the mold making operation, with 26.72% VOC.**
 - (c) **TEA used in the pH adjustment, with 100% VOC.**
- (j) **Combustion units:**
- (1) **One (1) natural gas-fired Dehumidification System, constructed in 2005, rated at 0.173 MMBtu/hr, to remove moisture from the wax mold, with a maximum capacity of 40 pounds of wax per hour, exhausting to stack S14AA.**
 - (2) **One (1) natural gas-fired Shellmaker Boiler, identified as E1, constructed in 2005, rated at 0.400 MMBtu/hr, exhausting to stack S14AA.**
 - (3) **One (1) natural gas-fired Building 7C Dewax Autoclave Boiler, identified as E2, constructed in 2008, with a maximum heat input capacity of 2.0 MMBtu/ hr, exhausting to stack S7CAA.**
 - (4) **One (1) natural gas-fired Furnace, identified as E3, constructed in 1999, comprised of two (2) pre-heat ovens with a heat input capacity of 1.5 million British thermal units per hour (MMBtu/hr) each, and one (1) afterburner with a heat input capacity of 0.75 million British thermal units per hour (MMBtu/hr), exhausting to stack S7CC.**
 - (5) **One (1) natural gas-fired air make-up Building 7C Roof top unit, identified as E17, constructed in 2001, with 4.0 million British thermal units per hour (MMBtu/hr) emissions exhausting to stack S7CB.**
 - (6) **Numerous natural-gas fired space heaters located throughout the facility, collectively identified as unit E16:**

Natural Gas-Fired Unit Locations	Capacity (MMBtu/hr)	Installation Date	Stack ID
Bldg 1 Heater	0.165	1982	S2
Bldg 2 Heater	0.080	1982	S2A
Bldg 3 Heater	0.250	1973	S3
Bldg 4 Heater	0.165	1975	S4
Bldg 5 Heater	0.200	1975	S5
Bldg 6 Heater	0.250	1981	S6
Bldg 7A Heater	0.225	1981	S7A
Bldg 7C Heater (3)	0.250	1981	S7C
Bldg 13 Heater (1)	0.750	1999	S13A
Bldg 14 Warehouse	0.400	2004	S14A
Bldg 14 Restroom Heater	0.060	2004	S14B
Heater (2)	0.40	2003	S7CB

- (k) **One (1) MIG/TIG Welding Operation, identified as E10, constructed in 1975, with a maximum capacity of 12 pieces per hour, with a maximum throughput of 200.4 pounds per hour of propellers, and exhausting indoors.**

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

...

E.1.2 Iron and steel foundry NESHAP [40 CFR 63.10880]

~~Pursuant to 40 CFR Part 63, the two (2) electric induction furnaces, are subject to 40 CFR Part 63, Subpart ZZZZ. The Permittee which engages in iron and steel foundries area source operation shall comply with the provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment A of this permit). It is an existing affected iron and steel foundry area source because it commenced construction before September 17, 2007. Pursuant to 40 CFR 63.10880 the Permittee shall be in compliance with the following requirements in this NESHAP under large **small** foundries.~~

Comment 12:

Section E.2

Please remove Section E.2. We do not feel that the facility is subject to XXXXXX because they are a steel investment foundry that produces hot cast products. They do not fabricate metal products. Precision Propellers is not primarily engaged in the operations in one of the nine source categories listed in the regulation.

Response to Comment 12:

IDEM agrees with the recommended change. The Condition E.2 has been removed because the source is not one of the nine source categories listed under NESHAP 40CFR 63, Subpart XXXXXX and does not belong to SIC code 3324.

SECTION E.2 — EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

...
~~(c) Operations controlled by Baghouse B:~~

~~One (1) pneumatic shakeout unit, identified as E5, constructed in 1988, with a capacity (g)
Fifteen (15) Off Hand Grinding Stations, collectively identified as E8, constructed in 1985, with
a combined maximum capacity of 3,600 lbs per hour, sixteen and seven tenths (16.7) pounds
each, at a combined process throughput of 3,600 pounds per hour, comprised of the following.~~

~~(1) Seven (7) grinding stations controlled by a 3,200 cfm dust collector, identified as E7-
3200, maximum capacity 240 lbs/hr each, exhausting internally.~~

~~(2) One (1) grinding stations controlled by a 4,800 cfm dust collector, identified as E1-
4800, maximum capacity 240 lbs/hr, exhausting internally.~~

~~(3) Six (6) grinding stations controlled by a 3,200 cfm dust collector, identified as E6-3200,
maximum capacity 240 lbs/hr each, exhausting internally.~~

~~(4) One (1) grinding and polishing station, controlled by a 1,200 cfm dust collector,
identified as E1-1200, maximum capacity 240 lbs/hr, exhausting internally.~~

~~Under NESHAP Subpart XXXXXX (Area source standards for Nine Metal Fabrication and
Finishing Source), the entire grinding and shotblasting operations and the fugitive emissions
are considered existing affected sources.~~

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

Comment 13:

TSD, Federal Rule Applicability
Please add the applicability determination for 40 CFR 63, Subpart ZZZZZZ:

This source is not subject to National Emission Standards for Hazardous Air Pollutants:
Area Source Standards For Aluminum, Copper, And Other Nonferrous Foundries because
the facility does not melt more than 600 ton per year of any nonferrous metal.

Response to Comment 13:

IDEM agrees with the recommended non applicability of the National Emission Standards for
Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart ZZZZZZ (Area Source Standards
For Aluminum, Copper, And Other Nonferrous Foundries) because the facility does not melt
more than 600 ton per year of any nonferrous metal therefore, there is no change in the
permit.

Comment 14:

Calculations, Foundry Operations
Emission factors used were for Grey Iron Foundries. We do not feel that these factors are
appropriate for an investment casting foundry because Precision Propeller melts only ingots,
not dirty scrap. The grey iron foundry numbers are much too high for an investment casting
foundry. Furthermore, the melt does not have a carbon source, therefore, there should not

We also do not feel that $PM = PM_{10} = PM_{2.5}$ is an accurate assessment; however, we also do not feel that using the same control efficiency for PM, PM₁₀ and PM_{2.5} is appropriate either. There is no change in the permit.

Response to Comment 14:

- (a) Under Air-014-NPD, as revised on March 9, 1999, and pursuant to 326 IAC 2-6.1 the source provided specific alternative emission factors for PM are used for each grinding and finishing operations at this facility. Precision propeller did not provide sufficient data or information during the review process to use alternative emission factors for PM₁₀ and PM_{2.5} validated by IDEM. Therefore, the worst case emission factors for PM₁₀ and PM_{2.5} are used which are same as PM.
- (b) The CO emission factor for pouring/castings, and shakeout (PCS) operations used is 6.0 lbs per ton of metal charged based on the August 11, 2006 Indiana Department of Environmental Management (IDEM) document, "Notice of Self-Disclosure for CO Emissions from PCS Operations within the Foundry Sector".

Comment 15:

Calculations, Combustion
Emission Unit E1, 0.4 MMBtu/hr Shellmaker needs to be added to the inventory.

Response to Comment 15:

IDEM agrees with the recommended change. The Shellmaker Boiler, identified as E1 emission unit is added to the emission calculations, Appendix A ATSD page 8 of 10.

Comment 16:

Calculations, Paved Roads
The number of one way trips was updated to reflect actual operations.

Response to Comment 16:

IDEM agrees with the recommended change. The fugitive calculations from Paved roads, ATSD Appendix A Page 9 of 10, the number of trips per hour of vehicle has been changed from 1 hour to 0.3 hr. Please see Appendix A ATSD.

Comment 17:

Calculations, Summary Table

The controlled summary table referenced the uncontrolled HAP numbers for the Nine Metal HAPs.

Response to Comment 17:

IDEM agrees with the recommended changes. The controlled emission summary table for Nine metal HAPs has been modified with the controlled Nine Metal HAPs. Please see Appendix A ATSD page 4 of 10.

Comment 18:

Particulate Control Condition D.1.4(a) should specify the unit identifications E5, E6 and E7 in Condition D.1.4 (a).

Response to Comment 18:

IDEM agrees with the recommended change. The condition D.1.4 which is now D.1.2 after re-numbering, is changed to specify the emission unit identifications controlled by Baghouse B as follows:

D.1-42 Particulate Control

- (a) In order to comply with Conditions D.1.1, the baghouse B associated with the shakeout (**E5**), grinding (**E6**) and shotblasting operations (**E7**), and the dust collector, E-9 associated with two (2) Vibratory Finish Lines (E9) to control particulate emissions, shall be in operation and control emissions from shakeout, grinding and shotblasting operation and the Vibratory Finish Lines (E9) at all times that the units are in operation.
- (b) In the event that baghouse B and the dust collector E-9, 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.

Comment 19:

Also for Condition D.1.4(b) the wording should say " In the event that a failure of individual compartment(s) of either Baghouse B or E9 is observed....

Response to Comment 19:

IDEM does not agree with the recommended change. IDEM's standard language is used for this condition.

Comment 20:

Parametric Monitoring Condition D.1.5 should specify the unit identifications controlled by baghouses A and B.

Response to Comment 20:

IDEM agrees with the recommended change. The Condition D.1.5 is revised as follows:

D.1.5 3 Baghouse Parametric Monitoring

- (a) The Permittee shall record the total pressure drop across ~~both~~ baghouses A **controlling emission units E5, E6 and E7** and **baghouse B controlling emission units E11, E12** ~~when an emission unit that it controls is in operation~~ at least once per day when associated units are in operation. When for any one reading, the pressure drop across both the baghouses is outside the normal range of 0.2 and 3 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a

deviation from this permit. Failure to take response shall be considered a deviation from this permit.

Additional Changes

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

(a) The zip code is inadvertently listed as 46256. The correct zip code for the source is 46218.

(b) The Section A.2 (i through J) has listed insignificant activities, as defined in 326 IAC 2-7-1

NOTE: The insignificant activities are listed under 326 IAC 2-7-1(21), part 70 Permit program applicability. This source is a Minor Source Operating Permit under 326 IAC 2-6.5-1, therefore, the following statement is removed from the permit.

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

(c) For clarity, IDEM has changed references to the general conditions: "in accordance with Section B", "in accordance with Section C", or other similar language, to " Section C ... contains the Permittee's obligations with regard to the records required by this condition."

(d) IDEM, OAQ has decided that the phrases "no later than" and "not later than" are clearer than "within" in relation to the end of a timeline. Therefore all timeline have been switched to "no later than" or "not later than" except for the timeline. The underlying rule(s) state(s) "within."

(e) IDEM, OAQ has revised Section B - Preventive Maintenance Plan.

(f) IDEM, OAQ has removed the first paragraph of Section C - Performance Testing due to the fact that specific testing conditions elsewhere in the permit will specify the timeline and procedures.

(g) IDEM, OAQ has removed Section C - Monitoring Methods. The conditions that require the monitoring or testing, if required, state what methods shall be used.

(h) IDEM, OAQ has revised Section C - Response to Excursions or Exceedances. The introduction sentence has been added to clarify that it is only when an excursion or exceedance is detected that the requirements of this condition need to be followed. The word "excess" was added to the last sentence of paragraph (a) because the Permittee only has to minimize excess emissions. The middle of paragraph (b) has been deleted as it was duplicative of paragraph (a). The phrase "or are returning" was added to subparagraph (b)(2) as this is an acceptable response assuming the operation or emission unit does return to normal or its usual manner of operation. The phrase "within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable" was replaced with "normal or usual manner of operation" because the first phrase is just a limited list of the second phrase. The recordkeeping required by paragraph (e) was changed to require only records of the response because the previously listed items are required to be recorded elsewhere in the permit.

(i) IDEM, OAQ has revised Section C - Actions Related to Noncompliance Demonstrated by a Stack Test. The requirements to take response steps and minimize excess emissions have been removed because Section C - Response to Excursions or Exceedances already requires response steps related to exceedances and excess emissions minimization. The start of the timelines was switched from "the receipt of the test results" to "the date of the test". There was confusion if the "receipt" was by IDEM, OAQ, the Permittee, or someone else. Since the start of the timelines has been moved up, the length of the timelines was

increased. The new timelines require action within a comparable timeline; and the new timelines still ensure that the Permittee will return to compliance within a reasonable timeframe.

- (j) The word "status" has been added to Section D - Record Keeping Requirements. The Permittee has the obligation to document the compliance status. The wording has been revised to properly reflect this.
- (k) The word "status" has been added to Section D - Reporting Requirements. The Permittee has the obligation to document the compliance status. The wording has been revised to properly reflect this.
- (l) IDEM has determined that rather than having a Certification condition and various references throughout the permit as to whether a particular report, notice, or correspondence needs to include a certification, the specific conditions that require an affirmation of truth and completeness shall state so. The certification condition has been removed. All statements to whether a certification, pursuant to the former Section B - Certification, is needed or not have been removed. Section B - Credible Evidence and Section C - Asbestos Abatement Projects still require certification as the underlying rules also require certifications.
- (m) IDEM has decided to state which rule establishes the authority to set a deadline for the Permittee to submit additional information. Therefore, Section B - Permit Renewal has been revised.
- (n) IDEM has revised Section B - Preventive Maintenance Plan.
- (o) IDEM, OAQ has added 326 IAC 5-1-1 to the exception clause of Section C - Opacity, since 326 IAC 5-1-1 does list exceptions.

B.9 Duty to Provide Information

- (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.10 ~~Reserved~~Certification

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

- (a) ~~If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days~~

~~after issuance of this permit or ninety (90) days after initial start up, whichever is later, including the following information on each facility:~~

- ~~(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;~~
- ~~(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and~~
- ~~(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.~~

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

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

~~The PMP extension notification does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

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

...

- (a) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit, for the source as described in 326 IAC 1-6-3.**

At a minimum, the PMPs shall include:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;**
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and**
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.**

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

Indiana Department of Environmental Management

**Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251**

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

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require ~~the certification~~ **an affirmation that the statements in the application are true and complete** by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- ...
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, **pursuant to 326 IAC 2-6.1-4(b)**, in writing by IDEM, OAQ any additional information identified as being needed to process the application.

...
B.19 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]

- (b) ...
The application which shall be submitted by the Permittee does require ~~the certification~~ **an affirmation that the statements in the application are true and complete** by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed

workers and project supervisors will be used to implement the asbestos removal project. ~~The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

...
C.8

Performance Testing [326 IAC 3-6]

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

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

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

~~no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require 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.11 **Reserved Monitoring Methods** ~~[326 IAC 3] [40 CFR 60] [40 CFR 63]~~

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

Corrective Actions and Response Steps

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

- ~~(a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.~~
- ~~(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:~~
- ~~(1) initial inspection and evaluation;~~
 - ~~(2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or~~

- ~~(3) — any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.~~

- ~~(c) — A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - ~~(1) — monitoring results;~~
 - ~~(2) — review of operation and maintenance procedures and records; and/or~~
 - ~~(3) — inspection of the control device, associated capture system, and the process.~~~~

- ~~(d) — Failure to take reasonable response steps shall be considered a deviation from the permit.~~

- ~~(e) — The Permittee shall maintain the following records:
 - ~~(1) — monitoring data;~~
 - ~~(2) — monitor performance data, if applicable; and~~
 - ~~(3) — corrective actions taken.~~~~

C.13 Response to Excursions or Exceedances

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

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.**

- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;**
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or**
 - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.****

- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;**
 - (2) review of operation and maintenance procedures and records; and/or****

- (3) **inspection of the control device, associated capture system, and the process.**
- (d) **Failure to take reasonable response steps shall be considered a deviation from the permit.**
- (e) **The Permittee shall record the reasonable response steps taken.**

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

- (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 its these response actions to IDEM, OAQ, within no later than thirty (30) days of receipt of the test results~~ **seventy-five (75) days after the date of the test.** ~~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 no later than one hundred eighty (180) twenty (120) days of receipt of the original test results~~ **days after the date of the test.** Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred **eighty (180) 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).~~

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

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

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

- (a) Reports required by conditions in Section D of this permit shall be submitted to:
- (c) **Reserved** ~~Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

...
D.1.5 **3** Baghouse Parametric Monitoring

- (a) The Permittee shall record the total pressure drop across both baghouses, A and B when an emission unit that it controls is in operation, at least once per day when associated units are in operation. When for any one reading, the pressure drop across both the baghouses is outside the normal range of 0.2 and 3 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.~~ **contains the Permittee's obligation with regard to the reasonable response steps required by this condition.** A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response ~~steps in accordance with Section C - Response to Excursions or Exceedances~~ shall be considered a deviation from this permit.
- (b) The Permittee shall record the total pressure drop across all the dust collectors when an emission unit that it controls is in operation, at least once per day when associated units are in operation. When for any one reading, the pressure drop across the dust collector is outside the normal range of 0.2 and 3.0 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.~~ **contains the Permittee's obligation with regard to the reasonable response steps required by this condition.** A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps ~~in accordance with Section C - Response to Excursions or Exceedances~~ shall be considered a deviation from this permit.

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

D.1.6 4 Broken or Failed Bag Detection

For a single compartment baghouses or dust collectors, 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 line. ~~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 C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.**

Bag or dust collector 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.

D.1.75 Record Keeping Requirement

- ...
- (b) To document **the compliance status** with Condition D.1.5, the Permittee shall maintain daily records of the pressure...
- ...
- (c) ~~All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit~~ **contains the Permittee's obligations with regard to the records required by this condition.**

D.2.5 Reporting Requirements

A quarterly summary of the information to document **the compliance status** with Condition D.2.2 shall be submitted to the address listed in ~~Section C - General Reporting Requirements, of this permit,~~ using the reporting forms located at the end of this permit, or their equivalent, ~~with~~ **no later than** thirty (30) days after the end of the quarter being

reported. **Section C – General Reporting contains the Permittee’s obligation with regard to the reporting required by this condition.** The report submitted by the Permittee does require the certification by an “authorized individual” as defined by 326 IAC 2-1.1-1(1).

**OFFICE OF AIR QUALITY
MINOR SOURCE OPERATING PERMIT (MSOP)
CERTIFICATION**

Source Name: Precision Propeller Industries, Inc.
Source Address: 2427 North Ritter Avenue, Indianapolis, IN 46256
Mailing Address: 2427 North Ritter Avenue, Indianapolis, IN 46256
MSOP No.: M097-28135-00664

~~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:

IDEM Contact

- (a) Questions regarding this proposed MSOP can be directed to Swarna Prabha at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5376 or toll free at 1-800-452-6027 extension 4-5376.
- (b) A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM’s Guide for Citizen Participation and Permit Guide on the at: www.idem.in.gov

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

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

Source Description and Location

Source Name: Precision Propeller Industries, Inc.
Source Location: 2427 North Ritter Avenue, Indianapolis, IN, 46218
County: Marion
SIC Code: 3324 and 3499
MSOP Permit No.: M097-28135-00664
Permit Reviewer: Swarna Prabha

On June 19, 2009, the Office of Air Quality (OAQ) received an application from Precision Propeller Industries, Inc., related to the investment casting foundry constructing and manufacturing marine precision propellers.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in Marion County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of Indianapolis bounded by 11 th Street on the north; Capitol Avenue on the west; Georgia Street on the south; and Delaware Street on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of Indianapolis and Marion County.
O ₃	Attainment effective November 8, 2007, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Attainment effective July 10, 2000, for the part of Franklin Township bounded by Thompson Road on the south; Emerson Avenue on the west; Five Points Road on the east; and Troy Avenue on the north. Attainment effective July 10, 2000, for the part of Wayne Township bounded by Rockville Road on the north; Girls School Road on the east; Washington Street on the south; and Bridgeport Road on the west. The remainder of the county is not designated.
¹ Attainment effective October 18, 2000, for the 1-hour ozone standard for the Indianapolis area, including Marion County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour designation was revoked effective June 15, 2005. Basic nonattainment designation effective federally April 5, 2005, for PM _{2.5} .	

(a) Ozone Standards

- (1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (2) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph

as attainment for the 8-hour ozone standard.

- (3) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) PM-2.5
Marion County has been classified as nonattainment for PM-2.5 in 70 FR 943 dated January 5, 2005. Until U.S. EPA adopts specific New Source Review rules for PM-2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM-2.5 emissions pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5.
- (c) Other Criteria Pollutants
Marion County has been classified as attainment or unclassifiable in Indiana for all other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

- (a) The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-6.1 (Minor Source Operating Permits) applicability.
- (b) Since this source is classified as a one of the 28 source categories (Secondary Metal Production Plant), it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7. Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Background and Description of New Source Construction

The Office of Air Quality (OAQ) has reviewed an application, submitted by Precision Propeller Industries, Inc., on June 19, 2009 relating to an existing investment casting facility that manufactures and repairs marine propellers.

- (a) Induction melt Furnaces;
 - (1) One (1) electric induction melt furnace, identified as F1, constructed in 1999, with a maximum capacity of 200 lbs/hr of steel, to manufacture propellers, maximum capacity 876 tons per year of steel, exhausting internally.
 - (2) One (1) electric induction melt furnace, identified as F2, constructed in 2007, with a maximum capacity of 600 lbs/hr of steel, to manufacture propellers, combined capacity 2,628 tons per year of steel, exhausting internally.

Under NESHAP Subpart ZZZZZ, the two electric induction furnaces and the fugitive emissions from foundry operations are considered existing affected sources.

NOTE: The furnaces are used to melt steel or brass. When brass is melted, it is < 1% of the total metal melted. Induction Furnace #1 processes 50 pounds of metal per heat * 4 heats/hr = 200 lbs/hour. Induction Furnace #2 processes 150 lbs/heat * 4 heats/hr = 600 lbs/hr. Fifty (50) pounds of metal produces three (3) propellers. The maximum number of propellers produced per hour without bottleneck is 48, therefore maximum propellers per year produced is 420,480. There is a bottleneck due to the Vibratory finish lines, because every propeller has to go through the Vibratory finish lines.

Only 110 propellers /day /line can be processed through both the Vibratory finish lines, therefore maximum propellers produced are 80,300 per year and amount of metal melted per year is 669.3 tons. Precision propeller manufactures two different sizes of propellers. For calculation purposes the weight of each propeller is assumed to be 16.7 lbs (worst case). The source claims that the amount of metal melted through the furnaces is based on the daily amount of metal/propellers processed through the Vibratory Finish Lines and there are no scrap and charge handling emissions from this source.

- (b) One (1) pouring, casting and cooling line, installed in 1999, uncontrolled, maximum capacity of 0.40 tons per hour, exhausting inside.
- (c) Operations controlled by Baghouse B:
 - (1) One (1) pneumatic shakeout unit, identified as E5, constructed in 1988, with a maximum capacity of 300 lbs of metal per hour, with emissions controlled by baghouse B, and exhausting internally.
 - (2) Four (4) Cutoff & Grinding stations, collectively identified as E6, constructed in 1995, with a maximum capacity of 15 lbs of metal per hour combined, with emissions controlled by baghouse B, and exhausting internally.
 - (3) Three (3) Wheelabrator Airless Shot Blasters, collectively identified as E7, constructed in 1996, equipped with a baghouse B to control particulates, with a maximum process throughput of 668.3 pounds/hr of propellers each, including 0.30 pounds of steel shots per hour each, and exhausting internally.
- (d) Operations controlled by Baghouse A:
 - (1) Four (4) Off Hand Grinding Stations to repair propellers, collectively identified as E11, constructed in 1985, at a maximum throughput of 334 lbs of propellers per hour each, with emissions controlled by baghouse A and exhausting internally.
 - (2) One (1) Sandblast Cabinet to repair propellers, identified as E12, constructed in 1995, with a capacity of 20 pieces per hour, with a maximum throughput of 334 lbs. per hour of propellers and 950 lbs. of sand blast media per year, equipped with a baghouse A and exhausting internally.
- (e) Two (2) Vibratory Finishing Operations, collectively identified as E9, constructed in 1986, with a maximum capacity of metal propellers processed less than 100.0 lbs per hour each, to remove burrs and imperfections, equipped with a 1,200 cfm dust collector, identified as E-9 to control particulates, including 7.52 lbs/hr of polishing media each, and exhausting internally.

NOTE: The Vibratory Finish Line process consists of three stages to the vibratory finishing lines; the first two stages are wet operations and use ceramic and plastic finishing media. Therefore, there are no emissions from the wet process. The third process stage is a dry operation, uses polishing cob media and particulates are controlled by the 1,200 cfm dust collector (E-9) and vents internally. Each stage of the process takes two hours to complete. Once a batch has completed the first stage, a second batch can be started in the first stage, while the first batch moves to the next stage. Precision propeller manufactures two different sizes of propellers. For calculation purposes the weight of each propeller is assumed to be 16.7 lbs (worst case).

- (f) One (1) Off Hand Grinding and polishing Station, identified as E14, constructed in 1994, with a capacity of 12 propellers per hour through E14, maximum throughput of 200.4 pounds per hour, equipped with one 1,200 cfm dust collector, identified as E-14 to control particulates and exhausting internally.

- (g) Fifteen (15) Off Hand Grinding Stations, collectively identified as E8, constructed in 1985, with a combined maximum capacity of 3,600 lbs per hour, sixteen and seven tenths (16.7) pounds each, at a combined process throughput of 3,600 pounds per hour, comprised of the following:
- (1) Seven (7) grinding stations controlled by a 3,200 cfm dust collector, identified as E7-3200, maximum capacity 240 lbs/hr each, exhausting internally.
 - (2) One (1) grinding stations controlled by a 4,800 cfm dust collector, identified as E1-4800, maximum capacity 240 lbs/hr, exhausting internally.
 - (3) Six (6) grinding stations controlled by a 3,200 cfm dust collector, identified as E6-3200, maximum capacity 240 lbs/hr each, exhausting internally.
 - (4) One (1) grinding and polishing station, controlled by a 1,200 cfm dust collector, identified as E1-1200, maximum capacity 240 lbs/hr, exhausting internally.

NOTE: Under NESHAP Subpart XXXXXX (Area source standards for Nine Metal Fabrication and Finishing Source), the all grinding operations and the fugitive emissions are considered existing affected sources.

- (h) One (1) Propeller Repair Paint Booth, identified as E13, constructed in 1995, equipped with HVLP spray gun, with a capacity of 20 pieces of propellers per hour, with particulate emissions controlled by a dry filter, exhausting to stack S6A.
- (i) Miscellaneous solvent usage:
- (a) The mold release sprayed on the molds to release the castings with 100% VOC.
 - (b) The catalyst used in the mold making operation, with 26.72% VOC.
 - (c) TEA used in the pH adjustment, with 100% VOC.

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

- (i) Combustion units:
- (1) One (1) natural gas-fired Dehumidification System, constructed in 2005, rated at 0.173 MMBtu/hr, to remove moisture from the wax mold, with a maximum capacity of 40 pounds of wax per hour, exhausting to stack S14AA.
- NOTE: There are no emissions from this process except from the natural gas-fired combustion operation.
- (2) One (1) natural gas-fired Shellmaker Boiler, identified as E1, constructed in 2005, rated at 0.400 MMBtu/hr, exhausting to stack S14AA.
 - (3) One (1) natural gas-fired Building 7C Dewax Autoclave Boiler, identified as E2, constructed in 2008, with a maximum heat input capacity of 2.0 MMBtu/ hr, exhausting to stack S7CAA.
 - (4) One (1) natural gas-fired Furnace, identified as E3, constructed in 1999, comprised of two (2) pre-heat ovens with a heat input capacity of 1.5 million British thermal units per hour (MMBtu/hr) each, and one (1) afterburner with a heat input capacity of 0.75 million British thermal units per hour (MMBtu/hr), exhausting to stack S7CC.
 - (5) One (1) natural gas-fired air make-up Building 7C Roof top unit, identified as E17, constructed in 2001, with 4.0 million British thermal units per hour (MMBtu/hr), emissions exhausting to stack S7CB.

- (6) Numerous natural-gas fired space heaters located throughout the facility, collectively identified as unit E16:

Natural Gas-Fired Unit Locations	Capacity (MMBtu/hr)	Installation Date	Stack ID
Bldg 1 Heater	0.165	1982	S2
Bldg 2 Heater	0.080	1982	S2A
Bldg 3 Heater	0.250	1973	S3
Bldg 4 Heater	0.165	1975	S4
Bldg 5 Heater	0.200	1975	S5
Bldg 6 Heater	0.250	1981	S6
Bldg 7A Heater	0.225	1981	S7A
Bldg 7C Heater (3)	0.250	1981	S7C
Bldg 13 Heater (1)	0.750	1999	S13A
Bldg 14 Warehouse	0.400	2004	S14A
Bldg 14 Restroom Heater	0.060	2004	S14B
Heater (2)	0.40	2003	S7CB

- (j) One (1) MIG/TIG Welding Operation, identified as E10, constructed in 1975, with a maximum capacity of 12 pieces per hour, with a maximum throughput of 200.4 pounds per hour of propellers, and exhausting indoors.
- (k) Paved and unpaved roads and parking lots with public access.

Unpermitted Emission Units and Pollution Control Equipment

The above listed emission units are considered unpermitted emission units.

Enforcement Issues

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

Intentionally left blank.... continued on next page....

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – MSOP

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

Pollutant	Potential To Emit (tons/year)
PM	33.11
PM10 ⁽¹⁾	27.58
PM2.5	27.22
SO ₂	0.033
NO _x	5.57
VOC	13.9
CO	6.69

(1) Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". USEPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

HAPs	Potential To Emit (tons/year)
Xylene	1.74
Toluene	5.76
Ethyle Benzene	negl.
Nickel	1.46
Manganese	0.18
Chromium	4.7
MIBK	0.46
Lead	0.47
TOTAL HAPs	15.39

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

Potential to Emit of the Entire Source After Issuance of the MSOP

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

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of MSOP (tons/year)								
	PM	*PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
(1) Induction Furnace (F1)	0.30	0.29	0.29	0.0	0.0	0.0	0.0	0.04	0.033 lead
(1) Induction Furnaces (F2)									
Pouring Casting/cooling	1.41	0.69	0.33	0.0	0.0	0.0	2.0	0.0	neg.
(1) Pneumatic and Shakeout unit (E5)	14.40	14.40	14.40	0.0	0.0	0.0	0.0	0.0	0.0
(4) Cutoff & Grind gate (E6)									
(3) Wheelabrator Airless Shotblasts (E7)									
(4) Hand Grinding Stations (E11)	2.73	2.73	2.73	0.0	0.0	0.0	0.0	0.0	0.0
(1) Sand Blast Cabinet (E12)									
Grind and Polish Station (E14)	2.72	2.72	2.72	0.0	0.0	0.0	0.0	0.0	0.0
Two (2) Vibratory Finish Lines(E9)	5.69	0.57	0.57	0.0	0.0	0.0	0.0	0.0	0.0
(15) Grinding Stations E8	3.68	3.68	3.67	0.0	0.0	0.0	0.0	0.0	0.0
Nine Metal HAPs	0	0	0	0	0	0	0	6.60	4.53 (Chromium)
Repair-Paint Operation	2.05	2.05	2.05	0.0	0.0	12.12	0.0	8.35	5.76 (Toluene)
Miscellaneous solvent usage	0.02	0.02	0.02	0	0	1.5	0	0.29	0.25 TEA
Natural gas Combustion	0.11	0.43	0.423	0.423	5.57	0.31	4.68	0.10	0.10 (n-Hexane)
Welding	0.001	0.001	0.0	0.0	0.0	0.0	0.0	negl.	negl.
Paved Roads									
Total PTE of Entire Source	33.11	27.58	27.22	0.03	5.57	13.9	6.69	15.39	5.76 (Toluene)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	100	100	NA	100	100	100	100	NA	NA
negl. = negligible * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". The emissions are based on the metal throughput of 669.3 tons per year due to the bottle neck of the vibratory finish lines. There are no PM2.5 Emission Factors in AP42, PM10 = PM2.5. The above listed emissions are uncontrolled.									

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants is less than 25 tons

per year except PM, PM10 and PM2.5 are greater than 25 tons per year. This source is not subject to the provisions of 326 IAC 2-7. Therefore, the source will be issued an MSOP.

- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is still less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore the source will be issued an MSOP.
- (c) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (d) 326 IAC 2-6.1 (MSOP)
Pursuant to the requirements of 326 IAC 2-6.1, the PTE calculated for the entire source are based on the maximum capacity of the entire source of 669.3 tons per year of metal processed.

NOTE: The source claimed that the combined metal throughput to the two (2) Vibratory Finish Lines is 699.3 tons per twelve (12) consecutive month period based on the process bottle neck, therefore the entire source PTE are based on the maximum metal throughput of 669.3 tons per year.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) The requirements of the New Source Performance Standard for Calciners and Dryers in Mineral Industries, 40 CFR Part 60.730, Subpart UUU, are not included in the permit because Precision Propeller Industries, Inc. has no sand reclamation system. Pursuant to EPA's Applicability Determination Index (ADI) database (<http://www.epa.gov/compliance/monitoring/programs/caa/adi.html>) posting dated April 29, 2004 (Control Number: 0500056), emission units used in the reclamation of foundry sand that remove water through direct or indirect heating meet the definition of calciners and dryers as defined in 40 CFR 60.731.
- (b) The requirements of the New Source Performance Standard for Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Unit is not subject to the New Source Performance Standards, 326 IAC 12, 40 CFR 60.40, 40 CFR 60.40a, 40 CFR 60.40b and 40 CFR 60.40c, Subparts D, Da, Db and Dc because natural gas-fired Auto Clave Boiler, E2 has a maximum heat input capacity of less than the threshold of 10 MMBtu per hour.
- (c) There are no other New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (a) This source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart ZZZZZ (Iron and Steel Foundries) because it is an existing iron and steel foundry area source because it commenced construction before September 17, 2007. Pursuant to 40 CFR 63.10880(a)(1) through (3), the permittee shall be in compliance with the requirements in this NESHAPs under small foundries because the metal melt production rate for 2008 is less than 20,000 tons per year.

Applicable portions of the NESHAP are the following:

- (1) 40 CFR 63.10880(b)(1)
40 CFR 63.10880(f)
40 CFR 63.10881(a)(1)
40 CFR 63.10881(a)(2)
40 CFR 63.10881(d)(1)
40 CFR 63.10881(d)(i)

40 CFR 63.10885(a)
40 CFR 63.10885(a)(1)
40 CFR 63.10885(a)(2)
40 CFR 63.10885(b)
40 CFR 63.10890(a)
40 CFR 63.10890(b)
40 CFR 63.10890(c)
40 CFR 63.10890(c)(1)
40 CFR 63.10890(c)(2)
40 CFR 63.10890(d)
40 CFR 63.10890 (e)(1)
40 CFR 63.10890(e)(2)
40 CFR 63.10890(e)(7)
40 CFR 63.10890(f)
40 CFR 63.10890(g)
40 CFR 63.10890(h)
40 CFR 63.10890(i)
40 CFR 63.10905
40 CFR 63.10906

Non applicable portions of the NESHAP will not be included in the permit.

There are no requirements of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1 and 326 IAC 14-1-1.

- (2) If the permittee is an owner or operator of an area source subject to this 40 CFR 63 Subpart ZZZZZ, the source is exempt from the obligation to obtain a permit under 40 CFR part 70 or 71.
- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPS), 40 CFR Part 63.11514, Subpart XXXXXX (National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories) are included in the permit, because this source have the potential to emit metals, defined to be the compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd), in the amounts greater than or equal to 0.1 percent by weight (of the metal), and materials that contain manganese in amounts greater than or equal to 1.0 percent by weight (of the metal).
- Applicable portions of the NESHAP are the following:
- 63.11514(a)(2)
63.11514(b)(1),(3)
63.11515(a)
63.11516(a)(2)
63.11516(c)
63.11517(a)
63.11517(b)
63.11519(a)
63.11519(b)
63.11521
63.11522
63.11523
- (c) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart MMMM, Surface Coating of Miscellaneous Metal Parts and Products (40 CFR Part 63.3880 - 63.3981), because this source is not a major source of HAPs as defined in 40 CFR 63.2.

- (d) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart EEEEE (Iron and Steel foundries), (40 CFR Part 63.768 - 63.7765), because this source is not a major source of HAPs as defined in 40 CFR 63.2.
- (e) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart RRR (Secondary Aluminum Production), (40 CFR Part 63.1500 - 63.1519), because this source is not a secondary Aluminum Production facility, and does not include the operation of the metal chip dryer/drying kiln and sweat furnaces, and is not a major source of hazardous air pollutants (HAPs) as defined in §63.2.
- (f) This source is not subject to the Emission Standards for Hazardous Air Pollutants (NESHAPs) for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources (40 CFR 63.111, Subpart HHHHHH), because the propeller repair booth, E13 does not use coatings containing target HAPs (chromium, cobalt, nickel, and manganese).
- (g) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

Compliance Assurance Monitoring (CAM)

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

State Rule Applicability Determination

The following state rules are applicable to the source:

326 IAC 2-6.1 (MSOP)

MSOP applicability is discussed under the Permit Level Determination-MSOP section above.

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

This source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit of all attainment regulated pollutants are less than 100 tons per year, and this source is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

326 IAC 2-3 (Emission Offset) and for PM2.5 nonattainment counties 326 IAC 2-1.1-5 (Nonattainment New Source Review)

This existing source is not a major stationary source, under Emission Offset (326 IAC 2-3), because the potential to emit all nonattainment regulated pollutants are less than 100 tons per year. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

This existing source is not a major stationary source, under 326 IAC 2-1.1-5 (Nonattainment New Source Review), because the potential to emit particulate matter with a diameter less than 2.5 micrometers (PM2.5), is less than 100 tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements do not apply.

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

The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County,

and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 9 (Carbon Monoxide Emission Limits)

Pursuant to 326 IAC 9-1-2(a)(2), this source is not subject to this rule because maximum throughput is less than ten (10) tons per hour for each of the induction furnaces. Therefore, 326 IAC 2-9-1-1 does not apply.

326 IAC 5-1 (Opacity Limitations)

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

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

NOTE: The source is located outside the area of Washington Township east of Fall Creek and the area of Franklin Township south of Thompson Road and east of Five Points Road.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

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

326 IAC 6.5 (Particulate Matter Limitations Except Lake County)

Pursuant to 326 IAC 6.5-1-1 (Particulate Matter Limitations Except Lake County), this stationary marine propeller manufacturing plant is located in Marion County. This source is not specifically listed in 326 IAC 6.5-10. However the source has agreed to limit particulate matter (PM) emissions from the entire source to be less than 10 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limit renders 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County) not applicable.

In order to comply with this limit, the baghouse B that controls particulate emissions associated with shakeout, grinding and shotblasting operations and the dust collectors associated with two (2) Vibratory Finish Lines (E9) shall be operated at all times that the associated units are in operation.

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

The source is not subject to the requirements of 326 IAC 6-5, because the potential fugitive particulate emissions are less than 25 tons per year.

State Rule Applicability - Induction furnaces, Foundry operation, grinding and finishing operations:

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

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

Control Device	Emission Unit	Process Weight Rate		Allowable Particulate Emissions
		(lbs/hr)	P (tons/hr)	E (lb/hour)
No Control	(1) electric induction melt furnaces (F1)	200	0.1	0.876
No Control	(1) electric induction melt furnaces (F2)	600	0.3	1.83
No Control	(1) Pouring, casting and cooling	800	0.4	0.731
Baghouse B	(1) pneumatic shakeout unit (E5)	300	0.15	4.53
	(4) Cutoff & Grind gate (E6)	<100 (each)	<0.05 (each)	<0.551 (each)
	(3) Wheelabrator Airless Shot Blasters (E7)	668.3 (each)	0.334 (each)	1.97 (each)
Baghouse A	(4) Off Hand Grinding stations (E11)	334 (each)	0.167 (each)	1.24 (each)
	(1) Sandblast Cabinet (E12)	1284	0.167	3.047
Dust Collector 1,200 CFM	(1) Off Hand Grinding and polishing station (E14)	200.4	0.10	0.88
Dust Collector 1,200 CFM	(2) Vibratory finish lines (E9)	<100 (each)	<0.050 (each)	<0.551 (each)
Dust Collector 3,200 CFM	(7) grinding stations (E8)	240 (each)	0.12 (each)	0.99 (each)
Dust Collector 4,800 CFM	(1) grinding station (E8)	240	0.120	0.99
Dust Collector 3,200 CFM	(6) grinding stations (E8)	240 (each)	0.12 (each)	0.99 (each)
Dust Collector 1,200 CFM	(1) grinding station (E8)	240	0.120	0.99

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

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

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

In order to comply with these limits, dust collectors to control particulate emissions associated with two (2) vibratory finish lines (E9), shall be operated at all times that the associated units are in operation.

State Rule Applicability - Propeller repair Paint Booth and miscellaneous solvent usage:

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

Pursuant to 326 IAC 8-1-1, the provisions of 326 IAC 8-2-9 apply to the Propeller repair Paint Booth because it was constructed after of July 1, 1990. However the source has agreed to limit VOC

emissions to less than fifteen (15) pounds per day for the Propeller repair Paint Booth. Compliance with this limit renders the provisions of 326 IAC 8-2-9 (Miscellaneous Metal Coating) not applicable.

Therefore, the owner or operator of this source shall comply with the following:

- (1) The VOC usage for the Propeller repair Paint Booth shall be less than 15.0 pounds per day.
Compliance with this limit renders the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating) not applicable.
- (2) To document compliance with this limit, the owner or operator of this source shall maintain records for the total VOC usage for the Propeller repair Paint Booth on a daily basis. These records shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC emission limit for the Propeller repair Paint Booth:
 - (A) The VOC content of each coating material and solvent used less water.
 - (B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (C) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount of materials used.
- (3) Unless otherwise specified in this MSOP, all record keeping requirements not already legally required shall be implemented within ninety (90) days of approval date of this MSOP.

326 IAC 8-1-6 (New facilities; general reduction requirements)

The one (1) propeller repair booth is not subject to 326 IAC 8-1-6 because it has potential emissions of less than twenty-five (25) tons per year of VOC.

326 IAC 8-6 (Organic Solvent Emission Limitations)

Pursuant to 326 IAC 8-6-1(1), the clean up solvent that is used at the injection molding is not subject to the requirements of 326 IAC 8-6 (Organic Solvent Emission Limitations) because the source is located in Marion County and potential VOC emissions from the clean up solvent are less than one hundred (100) tons per year.

326 IAC 20-6-1 (Halogenated Solvent Cleaning)

This source is not subject to the requirements of the 326 IAC 20-6-1, since the degreasing operations do not use a solvent that contains any of the halogenated compounds listed in 326 IAC 20-6-1(a).

326 IAC 8

There are no other 326 IAC 8 Rules that are applicable to the facility.

State Rule Applicability - Autoclave and Shellmaker Boilers:

326 IAC 6-2 (Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-4, particulate emissions from one (1) natural gas-fired Autoclave boiler (E2) and one (1) natural gas-fired Shellmaker Boiler (E1), each constructed after September 21, 1983 shall each be limited by the following equation:

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

Pt shall not exceed 0.6 lb/MMBtu for Q less than 10 MMBtu/hr

where Pt = pounds of particulate matter emitted per million Btu (MMBtu) heat input
Q = Total source maximum operation capacity rating in MMBtu/hr

Based on Appendix A, the potential to emit PM emissions from each boiler is < 0.6 is 0.0019 pounds per million British thermal units. Therefore the Autoclave Boiler, and Shellmaker Boiler each will be able to comply with this rule.

State Rule Applicability - Natural Gas-fired space heaters:

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

The natural gas-fired space heaters, units are each not subject to 326 IAC 6-2 as they are not sources of indirect heating.

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

Pursuant to 326 IAC 6-3-1(b)(14), the source-wide space heaters are not subject to the requirements of 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) because they have the combined potential to emit particulate matter less than 0.551 pounds per hour.

326 IAC 7-1 (Sulfur dioxide emission limitations: applicability)

The space heaters are not subject to the requirements of 326 IAC 7-1, because the potential and the actual emissions of sulfur dioxide are less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.

Intentionally left blank.... continued on next page....

State Rule Applicability - Welding

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

- (a) Pursuant to 326 IAC 6-3-1(b)(9), the one (1) MIG/TIG welding station is exempt from the requirements of 326 IAC 6-3, because the potential to consume welding wire is less than six hundred twenty-five (625) pounds per day each.
- (b) Pursuant to 326 IAC 6-3-1(b)(14), the source-wide welding operation is not subject to the requirements of 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) because the potential to emit particulate matter is less than 0.551 pounds per hour.

Compliance Determination, Monitoring and Testing Requirements
--

- (a) The compliance determination and monitoring requirements applicable to this source are as follows:

Following monitoring conditions are necessary because the dust collectors to control particulate emissions, associated with two (2) Vibratory finishing Operations (E9), and fifteen (15) Off Hand Grinding Stations (E8), must operate properly to ensure compliance with 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) and 326 2-6.1 (MSOP).

Emission Unit/Control	Operating Parameters	Frequency	Excursions and Exceedances
(1) Pneumatic shakeout (E5), (4) Cut off & Grinding (E6), (9) Wheelabrator Airless Shot Blasters (E7) /Baghouse B	water pressure drop	Once per day	Response steps
Off Hand Grinding Stations (E11), Sandblast Cabinet (E12)/ Baghouse A	water pressure drop	Once per day	Response steps
(2) Vibratory Finish Lines E9/Dust collector 1,200 CFM	water pressure drop	Once per day	Response steps
(1) Off Hand Grinding and polishing Station (E14)/ collector 1,200 CFM	water pressure drop	Once per day	Response steps
(7) Grinding Stations E8/ Dust collector 3,200 CFM	water pressure drop	Once per day	Response steps
(1) Grinding Stations E8/ Dust collector 4,800 CFM	water pressure drop	Once per day	Response steps
(1) Grinding Stations E8/ Dust collector 1,200 CFM	water pressure drop	Once per day	Response steps
(6) Grinding Stations E8/ Dust collector 3,200 CFM	water pressure drop	Once per day	Response steps

- (b) There are no testing requirements for this source because the total source emissions are well below the MSOP level with out control due to the Vibratory Finish Lines bottleneck of metal process throughput, and emissions after the control are less than 5 tons per year.
- (c) In accordance with Air-014-NPD, as revised on March 9, 1999, and pursuant to 326 IAC 2-6.1 the source specific alternative emission factors are used from all the grinding and finishing operations at this facility. The overall emissions of particulate must be less than 100 tons per year for this source before control, to be permitted as an MSOP source. Any change that would increase the emissions from these operations such that the potential to emit PM10 of the entire source is greater than the Part 70 thresholds requires prior approval from IDEM.
- (d) Broken or Failed Bag Detection
The Permittee shall maintain the baghouse and replace broken or failed bags as needed.
- (e) Testing is not required on baghouse compliance will be demonstrated through proper operation and parametric monitoring of the dust collectors and baghouses.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on June 19, 2009. The additional information was received on July 01, 2009, September 14, 2009, October 19, December 22, 2009, January 4, 2010 and February 1, 2010.

The construction and operation of this source shall be subject to the conditions of the attached proposed New Source Construction and New Source Review and FESOP No. 097-28135-00664. The staff recommends to the Commissioner that this New Source Construction and New Source Review and FESOP be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Swarna Prabha at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) (234-5376) or toll free at 1-800-451-6027 extension (5376).
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

**Appendix A: Emissions Calculations
Emission Summary**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

		Uncontrolled Potential Emissions (tons/year)													
		Emissions Generating Activity													
Category	Pollutant	(2) Induction FurnaceS (E4)	Pouring casting/cooling	Baghouse B Foundry operation	Baghouse A	Grind and Polish (E14)	(2) Vibratory Finish line (E9)	(15) Grinding stations (E8)	Nine Metal Haps	Repair- Paint Operation (E13)	Miscellaneous solvent usage	Natural Gas Combustion	Welding	Fugitive Emissions Paved Roads	TOTAL
Criteria Pollutants	PM	0.30	1.41	14.40	2.73	2.72	5.69	3.68	0.00	2.05	0.02	0.106	0.001	0.182	33.11
	PM10	0.29	0.69	14.40	2.73	2.72	0.57	3.68	0.00	2.05	0.02	0.423	0.001	0.035	27.58
	PM2.5	0.29	0.33	14.40	2.73	2.72	0.57	3.68	0.00	2.05	0.02	0.423	0.00	0.00	27.22
	SO2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.033	0.00	0.00	3.3E-02
	NOx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.57	0.00	0.00	5.57
	VOC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.12	1.5	0.31	0.00	0.00	13.9
	CO	0.0	2.01	0.0	0.0	0.0	0.0	0.0	0.0	0	0	4.68	0.00	0.00	6.69
		Totals	4.12E-02							6.61	8.35	0.29	0.10	7.01E-05	15.39
Hazardous Air Pollutants	Ethylbenzene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Xylenes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1.73	0.01	0.00	0.00	0.00	1.74
	Benzene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	1.2E-04	0.00	0.00	1.2E-04
	MeOH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.038	0.00	0.00	0.00	0.00	3.8E-02
	Formaldehyde	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	4.18E-03	0.00	0.00	4.2E-03
	n-Hexane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	1.00E-01	0.00	0.00	1.0E-01
	Toluene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	5.76	0.00	1.89E-04	0.00	0.00	5.76
	Lead	3.35E-02	0.0	0.0	0.0	0.0	0.0	0.0	4.38E-01	0.00	0.00	2.79E-05	0.00	0.00	4.7E-01
	Zinc	0.00E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.18	0.00	0.00	0.00	0.00	1.8E-01
	Chromium	7.70E-05	0.0	0.0	0.0	0.0	0.0	0.0	4.53E+00	0.18	0.00	7.80E-05	0.0	0.0	4.7E+00
	Manganese	7.53E-03	0.0	0.0	0.0	0.0	0.0	0.0	1.75E-01	0.00	0.00	2.12E-05	7.0E-05	0.0	1.8E-01
	MIBK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.0E+00	0.0	0.0	4.6E-01
	Isocyanates	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	3.7E-02
	TEA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	2.5E-01
	Nickel	1.34E-04	0.00	0.00	0.00	0.00	0.00	0.00	1.5E+00	0.00	0.00	1.2E-04	0.0	0.0	1.4E
		Totals	4.12E-02						6.61	8.35	0.29	0.10	7.01E-05	15.39	5.76

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

		Controlled Potential Emissions (tons/year)													
		Emissions Generating Activity													
Category	Pollutant	(2) Induction FurnaceS (E4)	Pouring casting/cooling	Baghouse B Foundry operation	Baghouse A	Grind and Polish (E14)	(2) Vibratory Finish line (E9)	(15) Grinding stations (E8)	Nine Metal Haps	Repair- Paint Operation (E13)	Miscellaneous solvent usage	Natural Gas Combustion	Welding	Fugitive Emissions Paved Roads	TOTAL
Criteria Pollutants	PM	0.30	0.014	0.14	0.027	0.027	0.057	0.037	0.00	0.103	0.02	0.106	0.00	0.18	0.83
	PM10	0.29	0.007	0.14	0.027	0.027	0.006	0.037	0.00	0.103	0.02	0.423	0.00	0.04	1.08
	PM2.5	0.29	0.003	0.14	0.027	0.027	0.006	0.037	0.00	0.103	0.02	0.423	0.00	0.00	1.08
	SO2	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.033	0.00	0.00	0.03
	NOx	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.57	0.00	0.00	5.57
	VOC	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.12	1.49	0.31	0.00	0.00	13.92
	CO	0.0	2.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.68	0.00	0.00	6.69
		Totals	4.1E-02							6.61	8.35	0.29	0.10	7.01E-05	15.39
Hazardous Air Pollutants	Ethylbenzene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.000	0.00	0.00	0.00	0.00	0.00
	Xylenes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1.73	0.01	0.00	0.00	0.00	1.74
	Benzene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	1.17E-04	0.00	0.00	1.17E-04
	MeOH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.038	0.000	0.00	0.00	0.00	3.77E-02
	Formaldehyde	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	4.18E-03	0.00	0.00	4.18E-03
	n-Hexane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	1.00E-01	0.00	0.00	1.00E-01
	Toluene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	5.76	0.00	1.89E-04	0.00	0.00	5.76
	Lead	3.35E-02	0.0	0.0	0.0	0.0	0.0	0.0	4.38E-01	0.00	0.00	2.79E-05	0.00	0.00	4.72E-01
	Zinc	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.18	0.00	0.00	0.00	0.00	1.83E-01
	Chromium	7.70E-05	0.0	0.0	0.0	0.0	0.0	0.0	4.53E+00	0.18	0.00	7.80E-05	0.00	0.00	4.71E+00
	Manganese	7.53E-03	0.0	0.0	0.0	0.0	0.0	0.0	1.75E-01	0.00	0.00	2.12E-05	7.01E-05	0.00	1.83E-01
	MIBK	0.00	0.0	0.00	0.0	0.0	0.0	0.0	0.00	0.46	0.00	0.00	0.00	0.00	4.60E-01
	Isocyanates	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	3.70E-02
	TEA	0.00	0.00	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	2.48E-01
	Nickel	1.34E-04	0.0	0.00	0.0	0.0	0.00	0.00	1.46E+00	0.00	0	1.17E-04	0.00	0.00	1.4E
		Totals	4.1E-02						6.61	8.35	0.29	0.10	7.01E-05	15.39	5.76

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

- On May 8, 2008 U. S. EPA promulgated the new requirements for Prevention Of Significant Deterioration (PSD) for PM 2.5 emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC2-2, to include those requirements. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.
- There are no emission factors in AP42 for PM2.5, PM10 = PM2.5

**Appendix A: Emissions Calculations
Particulate, HAPs
Induction Furnace melting, Foundry operation and Grinding**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

Emissions from melting Metal

Process:	*Rate (tons iron/hr)	Pollutant	Emission Factor (lb/ton produced)	Emissions Before Control (ton/yr)	Type of control	Control Efficiency (%)	Emissions After Control (ton/yr)
Melting - 2 Electric Induction Furnaces Source of Criteria Pollutant Factors: EPA SCC# 3-04-003-03 FIRE 6.01 AP-42 Ch. 12.10 Fifth edition 1995	0.076	PM	0.90	0.30	none	0.00%	0.30
		PM-10	0.86	0.29	none	0.00%	0.29
		SO2	0.00	0.00			
		NOx	0.00	0.00			
		VOC	0.00	0.00			
		CO	0.00	0.00			
		chromium	0.00023	0.00008	none	0.00%	7.70E-05
		cobalt	0.00002	0.00001	none	0.00%	6.69E-06
		nickel	0.00040	0.00013	none	0.00%	1.34E-04
		arsenic	0.00008	0.00003	none	0.00%	2.68E-05
		cadmium	0.00004	0.00001	none	0.00%	1.34E-05
		manganese	0.02250	0.00753	none	0.00%	7.53E-03
		selenium	0.00001	0.00000	none	0.00%	3.35E-06
		Lead	0.10000	0.03347	none	0.00%	0.03347
						Total HAPs	0.04

NOTES:

1. Emission factors from AP42 Table 12.10-5, SCC 3-04-003-03, No Data is available for CO, SO2, NOx and VOC.

* Rate (Process throughput) is based on 669.3 tons/yr of metal melted for both furnaces combined, due to the bottleneck from Vibratory finishing lines
There is no control on the melting furnaces.

Pouring, and cooling SCC-3-04-003-18 (gray foundries) AP-42- Table 12.10-7

Process	Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/ton)	Uncontrolled (lbs/hr)	Emission (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
Pouring/Cooling	PM	0.076	4.200	0.321	1.406	99.00%	0.003	0.014
	PM-10	0.076	2.060	0.157	0.689	99.00%	0.002	0.007
	PM-2.5	0.076	1.000	0.076	0.335	99.00%	0.001	0.003
	**CO	0.076	6.000	0.458	2.008	0.00%	0.458	2.008

**The CO emission factor for pouring/castings, and shakeout (PCS) operations used is 6.0 lbs per ton of metal charge based on the August 11, 2006 Indiana Department of Environmental Management (IDEM) document, "Notice of Self-Disclosure for CO Emissions from PCS Operations within the Foundry Sector".

Emissions Controlled with Baghouse B (4,800 CFM)- Foundry Operation- shakeout, grinding, and shotblasting operation.

Process	Pollutant	Maximum Rate (tons/hr)	***Emission Factor (lbs/ton)	Uncontrolled (lbs/hr)	Emission (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
One (1) Pneumatic shakeout unit (E5)	PM	0.076	43.020	3.287	14.397	99.00%	0.033	0.144
Four (4) Cutoff & Grind Gate (E6)	PM-10	0.076	43.020	3.287	14.397	99.00%	0.033	0.144
Three (3) Wheelabrator Airless Shotblasts (E7)	PM-2.5	0.076	43.020	3.287	14.397	99.00%	0.033	0.144

Emissions controlled with Baghouse A (3,200cfm)

Process	Pollutant	Maximum Rate (tons/hr)	***Emission Factor (lbs/ton)	Uncontrolled (lbs/hr)	Emission (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
Four (4) Hand Grinding Stations (E11)	PM	0.076	8.170	0.624	2.734	99.00%	0.006	0.027
One (1) Sand Blast Cabinet (E12)	PM-10	0.076	8.170	0.624	2.734	99.00%	0.006	0.027
	PM-2.5	0.076	8.170	0.624	2.734	99.00%	0.006	0.027

*** Emission factors for Baghouse B, and Baghouse A were provided by the source based on the dust collected before control during a month period (9/2/09-10/02/09)

**Appendix A: Emissions Calculations
Particulate, HAPs
Induction Furnace melting, Foundry operation and Grinding**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

Emissions Controlled with (one) 1200 CFM Collector E-14, associated with E14.

Process/control	Pollutant	Maximum Rate	*** Emission Factor	Uncontrolled Emission	Emission	Control Efficiency	Controlled Emission Rate	Controlled Emission Rate
		(tons/hr)	(lbs/ton)	(lbs/hr)	(tons/yr)	(%)	(lbs/hr)	(tons/yr)
Grind and Polish (E14)/ E-14	PM	0.076	8.140	0.622	2.724	99.00%	0.006	0.027
	PM-10	0.076	8.140	0.622	2.724	99.00%	0.006	0.027
	PM-2.5	0.076	8.140	0.622	2.724	99.00%	0.006	0.027

* Emission factors are based on

Emissions Controlled with (one) 1200 CFM Collector (E-9) associated with two VFL

Process/control	Pollutant	Maximum Rate	(1) Emission Factor	Uncontrolled Emission	Emission	Control Efficiency	Controlled Emission Rate	Controlled Emission Rate
		(tons/hr)	(lbs/ton)	(lbs/hr)	(tons/yr)	(%)	(lbs/hr)	(tons/yr)
** (2) Vibratory Finish Lines (E9)/ E-9	PM	0.076	17.000	1.299	5.689	99.00%	0.013	0.057
	PM-10	0.076	1.700	0.130	0.569	99.00%	0.001	0.006
	PM-2.5	0.076	1.700	0.130	0.569	99.00%	0.001	0.006

** This process has three finishing steps in the process. Two steps of finishing operation are wet operations (negl. emissions), and the third step is a dry operation.

(1) EPA WebFIRE PM and PM10 emission factors for Grey Iron Foundries - Grinding/Cleaning (Table 12.10-7, SCC#30400340)

Grinding operations E8 /Process with control filters

Process/Control	Pollutant	Maximum Rate	***Emission Factor	Uncontrolled Emission	Emission	Control Efficiency	Controlled Emission Rate	Controlled Emission Rate
		(tons/hr)	(lbs/ton)	(lbs/hr)	(tons/yr)	(%)	(lbs/hr)	(tons/yr)
(7) Grinding Station E8 (3200 CFM) E7-3200	PM	0.076	9.950	0.760	3.330	99.00%	0.008	0.033
	PM-10	0.076	9.950	0.760	3.330	99.00%	0.008	0.033
	PM-2.5	0.076	9.950	0.760	3.330	99.00%	0.008	0.033
(1) Grinding Station E8 (4,800CFM) E1-4800	PM	0.076	0.270	0.021	0.090	99.00%	0.000	0.001
	PM-10	0.076	0.270	0.021	0.090	99.00%	0.000	0.001
	PM-2.5	0.076	0.270	0.021	0.090	99.00%	0.000	0.001
(1) Grinding Station E8 (1,200CFM) E1-1200	PM	0.076	0.210	0.016	0.070	99.00%	0.000	0.001
	PM-10	0.076	0.210	0.016	0.070	99.00%	0.000	0.001
	PM-2.5	0.076	0.210	0.016	0.070	99.00%	0.000	0.001
(6) Grinding Station E8 (3,200CFM) E6-3200	PM	0.076	0.580	0.044	0.194	99.00%	0.000	0.002
	PM-10	0.076	0.580	0.044	0.194	99.00%	0.000	0.002
	PM-2.5	0.076	0.580	0.044	0.194	99.00%	0.000	0.002
Total tons/yr	PM			0.841	3.68			0.037
Total tons/yr	PM-10			0.841	3.68			0.037
Total tons/yr	PM-2.5			0.841	3.68			0.037

NOTE:

*** Emission factors for Grinding and Polishing operation controlled by dust collector E-14, Units E8 (grinders) consisting of dust collectors E7-3200, E1-4800, E1-1200, and E6-3200 , were provided by the source based on the dust collected before control during a month period (9/2/09-10/02/09).

- The potential emissions are calculated based on 669.3 tons/yr of metal melted for both furnaces combined, due to the bottleneck from Vibratory Finish lines
- There is no control on melting furnaces.

There are no emissions for PM2.5 in AP42, PM10 = PM2.5.

METHODOLOGY

Uncontrolled Emission Rate (lbs/hr) = Maximum Rate (tons/hr) x Emissions (lbs/ton)

Uncontrolled Emission Rate (tons/yr) = Throughput (lbs/hr) x 1 ton/2000 lbs x Emissions (lbs/ton) x 8760 (hrs/yr) / 2000 (lbs/ton)

Controlled Emission Rate (lbs/hr) = Uncontrolled Emission Rate (lbs/hr) x (1-Control Eff)

Controlled Emission Rate (tons/yr) = Uncontrolled Emission Rate (tons/yr) x (1-Control Eff)

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

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

Unit ID	* Total Uncontrolled Potential Particulate (PM) (tons/yr)	Weight % Chromium Compounds	Weight % Lead Compounds	Weight % Manganese Compounds	Weight % Nickel Compounds	Chromium Compounds Emissions (ton/yr)	Lead Compounds Emissions (ton/yr)	Manganese Compounds Emissions (ton/yr)	Nickel Compounds Emissions (ton/yr)
<i>shakeout, grinding and shotblasting operarion</i>									
One (1) Pneumatic shakeout unit (E5) Four (4) Cutoff & Grind Gate (E6) Wheelabrator Airless Shotblasts (E7)	14.397	15.50%	1.50%	0.60%	5.00%	2.231	0.216	0.086	0.720
Four (4) Hand Grinding Stations One (1) Sand Blast Cabinet (E12)	2.734	15.50%	1.50%	0.60%	5.00%	0.424	0.041	0.016	0.137
Grind and Polish (E14)	2.72	15.50%	1.50%	0.60%	5.00%	0.422	0.041	0.016	0.136
** (2) Vibratory Finish Lines (E9)	5.69	15.50%	1.50%	0.60%	5.00%	0.882	0.085	0.034	0.284
Grinding Stations E8	3.68	15.50%	1.50%	0.60%	5.00%	0.571	0.055	0.022	0.184
Total Uncontrolled Potential Emissions (tons/yr)						4.53	0.44	0.18	1.46
Control Efficiency (%)						99%			
Controlled Potential Emissions (tons/year)						0.045	0.004	0.002	0.015

Methodology:

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

Total Combined HAPs (tons/yr)	6.61
Controlled Potential Emissions (tons/year)	0.07

Notes:

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

* The Total Uncontrolled Potential Particulate (PM) Process Emissions from the InductionFurnace melting, Foundry operation and Grinding, taken from page 3 and 4 of 9, of this Appendix.

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

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

**Appendix A: Emissions Calculations
VOCs, Particulate, HAPs
Repair- Paint Operation-E13**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

PTE of PM and VOC from Propeller repair operation -metal coating

Potential Uncontrolled Emissions:																			
Material (as applied)	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	maximum capacity gal/unit	maximum capacity unit/hr	maximum usage (gal/hr)	Maximum (gal/yr)**	Maximum (gal/yr)*	Pounds VOC per gallon of coating less water	PTE of VOC lbs/hour	Actual PTE of VOC* lbs/ day	PTE of VOC** lbs/ day	PTE of VOC tons/ year	PTE of PM/PM10 before control ton/yr	PTE of PM/PM10 after control ton/yr	Transfer Efficiency
Primer-Paint	6.22	22.00%	0.00%	22.00%	0.00%	78.00%	0.0056	20.00	0.112	981.120	44.80	1.37	0.153	0.245	3.68	0.67	1.190	0.06	50.00%
Lacquer Thinner	6.95	100.00%	0.00%	100.00%	0.00%	0.00%	0.0069	20.00	0.138	1205.376	55.04	6.95	0.956	1.530	22.95	4.19	0.000	0.00	50.00%
Glaze Coat	7.90	23.00%	0.00%	23.00%	0.00%	77.00%	0.0023	20.00	0.045	394.200	18.00	1.82	0.082	0.131	1.96	0.36	0.599	0.03	50.00%
Primer Reducer	8.01	98.00%	0.00%	97.50%	0.00%	2.00%	0.0006	20.00	0.013	110.376	5.04	7.81	0.098	0.157	2.36	0.43	0.004	0.00	50.00%
Spray paint	6.76	26.00%	0.00%	71.00%	0.00%	11.00%	0.0012	20.00	0.023	204.984	9.36	4.80	0.112	0.180	2.70	0.49	0.256	0.01	50.00%
Xylene	7.26	100.00%	0.00%	100.00%	0.00%	0.00%	0.0025	20.00	0.050	438.000	20.00	7.26	0.363	0.581	8.71	1.59	0.000	0.00	150.00%
Toluene	7.26	100.00%	0.00%	100.00%	0.00%	0.00%	0.0069	20.00	0.138	1208.880	55.20	7.26	1.002	1.603	24.05	4.39	0.000	0.00	250.00%

*Repair paint Booth operates only 400 hours per year or 8 hours per week (1.6 hrs per day)

** Paint usage 24 hours a day, 8760 hours per year

4.43 66.41 12.12 2.05 0.10

Control efficiency 95%

Repair Booth HAPs

	Maximum Usage (gal/yr)	Density (lb/gal)	Maximum Usage (lb/yr)	Weight % Xylenes	Xylenes Emissions (tons/yr)	Weight % Toluene	Toluene Emissions (tons/yr)	Weight % MIBK	MIBK Emissions (tons/yr)	Weight % EB	EB Emissions (tons/yr)	Weight % MeOH	MeOH Emissions (tons/yr)	Weight % Isocyanates	Isocyanates Emissions (tons/yr)	Weight % Chromium	Chromium Emissions (tons/yr)	Weight % Zinc	Zinc Emissions (tons/yr)	Weight % TEA	TEA Emissions (tons/yr)	Total (tons/yr)
Primer-Paint	981.12	6.22	6102.57	4%	0.12	5%	0.15	9%	0.27	0%	0	0%	0.00	0%	0.00	6%	0.18	6%	0.18	0%	0.00	0.92
Lacquer Thinner	1205.4	6.95	8377.53	0%	0.00	29%	1.21	4%	0.17	0%	0	1%	0.04	0%	0.00	0%	0.00	0%	0.00	0%	0.00	1.42
Glaze Coat	394.2	7.90	3114.18	0%	0.00	0%	0.00	0%	0.00	0%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0.00
Primer Reducer	110.4	8.0	884.30	4%	0.02	0%	0.00	4%	0.02	0%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0.04
Spray Paint	205.0	6.8	1385.80	0%	0.00	0%	0.00	0.0%	0.00	0.5%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0.00
Xylene	438.0	7.3	3179.88	100%	1.59	0%	0.00	0.0%	0.00	0.0%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.00	1.59
Toluene	1208.9	7.3	8776.47	0%	0.00	100%	4.39	0.0%	0.00	0.0%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.00	4.39
					1.73		5.76		0.46		0.00		0.038		0.00		0.18		0.18		0.00	8.35

METHODOLOGY

HAPS emission rate (tons/yr) = [Maximum Usage (lb/yr)] * [Weight % HAP] * [1 ton/2000 lbs]
There are no emissions for PM2.5 in AP42, PM10 = PM2.5.

METHODOLOGY

Maximum Usage (gals/hour) = [Maximum Capacity (unit/hr)] x [Maximum Capacity (gal/unit)]
VOC (lbs/gal) = [Density (lbs/gal)] x [Weight % VOC/100%]
PTE of VOC (lbs/hr) = [Maximum Usage (lbs/hr)] * [Weight % VOC/100%]
PTE of VOC (lbs/day) = [PTE of VOC (lbs/hr)] * [24 hours/day]
PTE of VOC (tons/yr) = [PTE of VOC (lbs/hr)] * [(8760 hours/yr)] * [1 ton/2000 lbs]
PTE PM/PM10 (lbs/hr) = [Maximum Usage (gals/hour)] x [Weight % solids/100%]
PTE of PM/PM10 Before Controls (tons/year) = [PTE PM/PM10 (lbs/hour)] x [8760 (hours/year)] x [1 ton/2000 lbs] x [1 - Transfer Efficiency %]
PTE PM/PM10 After Controls (tons/yr) = [PTE of PM/PM10 (tons/yr)] x [1-(% control efficiency/100%)]

ACRONYMS

MeOH = Methanol EB = ethylbenzene
MIBK = methyl isobutyl ketone HCOH = formaldehyde

**Appendix A: Emissions Calculations
VOCs, Particulate, HAPs
Misc. Solvent Usage**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

PTE of PM and VOC from Propeller misc. solvent usage

Potential Uncontrolled Emissions:																	
Material (as applied)	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	maximum usage (gal/hr)	Maximum (gal/yr)	Maximum (gal/yr)* (actual)	Pounds VOC per gallon of coating less water	PTE of VOC lbs/hour	Actual PTE of VOC* lbs/ day	PTE of VOC lbs/ day**	PTE of VOC tons/ year	PTE of PM/PM10 before control ton/yr	PTE of PM/PM10 after control ton/yr	Transfer Efficiency
Mold release	7.01	100.00%	0.00%	75.00%	0.00%	0.00%	0.041	356.970	163.00	5.26	0.214	3.428	5.14	0.94	0.000	0.00	50.00%
Catalyst	9.01	26.72%	0.00%	26.72%	0.00%	73.28%	0.001	10.950	5.00	2.41	0.003	0.048	0.07	0.01	0.018	0.02	50.00%
TEA	6.06	100.00%	0.00%	100.00%	0.00%	0.00%	0.020	178.886	81.68	6.06	0.124	1.980	2.97	0.54	0.000	0.00	50.00%
Total											0.34	5.456	8.18	1.49	0.02	0.02	

* Facility operates 4,000 hours per year (or 16 hours/day).

** facility operating 24 hours per day.

Repair Booth HAPs

	Maximum Usage (gal/yr)	Density (lb/gal)	Maximum Usage (lb/yr)	Weight % Xylenes	Xylenes Emissions (tons/yr)	Weight % Toluene	Toluene Emissions (tons/yr)	Weight % MIBK	MIBK Emissions (tons/yr)	Weight % EB	EB Emissions (tons/yr)	Weight % MeOH	MeOH Emissions (tons/yr)	Weight % Isocyanates	Isocyanates Emissions (tons/yr)	Weight % Chromium	Chromium Emissions (tons/yr)	Weight % Zinc	Zinc Emissions (tons/yr)	Weight % TEA	TEA Emissions (tons/yr)	Total (tons/yr)	
Mold Release	357.0	7.01	2502.36	0%	0.00	0%	0.00	0%	0.00	0%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0.00	0.00
Catalyst	11.0	9.01	98.66	13%	0.01	0%	0.00	0%	0.00	0%	0	0%	0.00	75%	0.04	0%	0.00	0%	0.00	0%	0.00	0.00	0.04
TEA	178.9	6.06	495.00	0%	0.00	0%	0.00	0%	0.00	0%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	100%	0.25	0.25	
					0.01		0.00		0.00		0.00		0.000		0.04		0.00		0.00		0.25	0.29	

NOTE: Mold release is sprayed on the molds to release the castings

Catalyst is used in the mold making operation

TEA is used for pH balance

METHODOLOGY

HAPS emission rate (tons/yr) = [Maximum Usage (lb/yr)] * [Weight % HAP] * [1 ton/2000 lbs]

METHODOLOGY

Maximum Usage *(gals/hour) = [Maximum Capacity (unit/hr)] x [Maximum Capacity (gal/unit)]

VOC (lbs/gal) = [Density (lbs/gal)] x [Weight % VOC/100%]

PTE of VOC (lbs/hr) = [Maximum Usage (lbs/hr)] * [Weight % VOC/100%]

PTE of VOC (lbs/day) = [PTE of VOC (lbs/hr)] * [24 hours/day]

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

PTE PM/PM10 (lbs/hr) = [Maximum Usage (gals/hour) x [Weight % solids/100%]

PTE of PM/PM10 Before Controls (tons/year) = [PTE PM/PM10 (lbs/hour)] x [8760 (hours/year)] x [1 ton/2000 lbs] x [1 - Transfer Efficiency %]

PTE PM/PM10 After Controls (tons/yr) = [PTE of PM/PM10 (tons/yr)] x [1 - (% control efficiency/100%)]

ACRONYMS

MeOH = Methanol

MIBK = methyl isobutyl ketone

EB = ethylbenzene

HCOH = formaldehyde

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

Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha

Pollutant	PM*	PM10*	SO2	NOx**	VOC	CO	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
Emission Factor (lb/MMCF)	1.9	7.6	0.6	100	5.5	84.0	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03

Emission Unit	Number of Units	Unit Heat Input Capacity MMBtu/hr	Combined Total Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Potential Emission tons/yr															
					PM*	PM10*	SO2	NOx**	VOC	CO	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
Bldg 14A Dehumidifier (E1)	1	0.173	0.173	1.52	0.001	0.01	0.000	0.1	0.004	0.1	1.6E-06	9.1E-07	5.7E-05	1.4E-03	2.6E-06	3.8E-07	8.3E-07	1.1E-06	2.9E-07	1.6E-06
Bldg 7C Autoclave Boiler (E2)	1	2.000	2.000	17.52	0.017	0.07	0.005	0.9	0.048	0.7	1.8E-05	1.1E-05	6.6E-04	1.6E-02	3.0E-05	4.4E-06	9.6E-06	1.2E-05	3.3E-06	1.8E-05
Bldg 7C Pre-Heat Furnace (E3)	1	3.000	3.000	26.28	2.5E-02	1.0E-01	7.9E-03	1.3E+00	7.2E-02	1.1E+00	2.8E-05	1.6E-05	9.9E-04	2.4E-02	4.5E-05	6.6E-06	1.4E-05	1.8E-05	5.0E-06	2.8E-05
Bldg 7C Afterburner (E3)	1	0.750	0.750	6.57	0.006	0.02	0.002	0.3	0.018	0.3	6.9E-06	3.9E-06	2.5E-04	5.9E-03	1.1E-05	1.6E-06	3.6E-06	4.6E-06	1.2E-06	6.9E-06
Bldg 7C Roof Top Unit (E17)	1	4.000	4.000	35.04	0.033	0.13	0.011	1.8	0.096	1.5	3.7E-05	2.1E-05	1.3E-03	3.2E-02	6.0E-05	8.8E-06	1.9E-05	2.5E-05	6.7E-06	3.7E-05
Bldg 1 Heater (E16)	1	0.165	0.165	1.45	1.4E-03	5.5E-03	4.3E-04	7.2E-02	4.0E-03	6.1E-02	1.5E-06	8.7E-07	5.4E-05	1.3E-03	2.5E-06	3.6E-07	7.9E-07	1.0E-06	2.7E-07	1.5E-06
Bldg 2 Heater (E16)	1	0.080	0.080	0.70	0.001	0.00	0.000	0.0	0.002	0.0	7.4E-07	4.2E-07	2.6E-05	6.3E-04	1.2E-06	1.8E-07	3.9E-07	4.9E-07	1.3E-07	7.4E-07
Bldg 3 Heater (E16)	1	0.250	0.250	2.19	0.002	0.01	0.001	0.1	0.006	0.1	2.3E-06	1.3E-06	8.2E-05	2.0E-03	3.7E-06	5.5E-07	1.2E-06	1.5E-06	4.2E-07	2.3E-06
Bldg 4 Heater (E16)	1	0.165	0.165	1.45	0.001	0.01	0.000	0.1	0.004	0.1	1.5E-06	8.7E-07	5.4E-05	1.3E-03	2.5E-06	3.6E-07	7.9E-07	1.0E-06	2.7E-07	1.5E-06
Bldg 5 Heater (E16)	1	0.200	0.200	1.75	0.002	0.01	0.001	0.1	0.005	0.1	1.8E-06	1.1E-06	6.6E-05	1.6E-03	3.0E-06	4.4E-07	9.6E-07	1.2E-06	3.3E-07	1.8E-06
Bldg 6 Heater (E16)	1	0.250	0.250	2.19	0.002	0.01	0.001	0.1	0.006	0.1	2.3E-06	1.3E-06	8.2E-05	2.0E-03	3.7E-06	5.5E-07	1.2E-06	1.5E-06	4.2E-07	2.3E-06
Bldg 7A Heater (E16)	1	0.225	0.225	1.97	0.002	0.01	0.001	0.1	0.005	0.1	2.1E-06	1.2E-06	7.4E-05	1.8E-03	3.4E-06	4.9E-07	1.1E-06	1.4E-06	3.7E-07	2.1E-06
Bldg 7C Heater (E16)	1	0.250	0.250	2.19	0.002	0.01	0.001	0.1	0.006	0.1	2.3E-06	1.3E-06	8.2E-05	2.0E-03	3.7E-06	5.5E-07	1.2E-06	1.5E-06	4.2E-07	2.3E-06
Bldg 13 Heater (E16)	1	0.750	0.750	6.57	0.006	0.02	0.002	0.3	0.018	0.3	6.9E-06	3.9E-06	2.5E-04	5.9E-03	1.1E-05	1.6E-06	3.6E-06	4.6E-06	1.2E-06	6.9E-06
Bldg 14 Warehouse (E16)	1	0.400	0.400	3.50	0.003	0.01	0.001	0.2	0.010	0.1	3.7E-06	2.1E-06	1.3E-04	3.2E-03	6.0E-06	8.8E-07	1.9E-06	2.5E-06	6.7E-07	3.7E-06
Bldg 14 Restroom Heater (E16)	1	0.060	0.060	0.53	0.000	0.00	0.000	0.0	0.001	0.0	5.5E-07	3.2E-07	2.0E-05	4.7E-04	8.9E-07	1.3E-07	2.9E-07	3.7E-07	1.0E-07	5.5E-07
Totals	16	12.718	12.718		0.11	0.42	0.03	5.57	0.31	4.68	1.2E-04	6.7E-05	4.2E-03	1.0E-01	1.9E-04	2.8E-05	6.1E-05	7.8E-05	2.1E-05	1.2E-04

*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

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

There are no emissions for PM2.5 in AP42, PM10 = PM2.5.

Methodology

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

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

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)

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu, MMCF = 1,000,000 Cubic Feet of Gas

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 μm)
SO2 = Sulfur Dioxide

NOx = Nitrous Oxides
VOC = Volatile Organic Compounds
CO = Carbon Monoxide

DCB = Dichlorobenzene
Pb = Lead
Cd = Cadmium

Cr = Chromium
Mn = Manganese
Ni = Nickel

**Appendix A: Emissions Calculations
Welding**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
Permit No. : M097-28135-00664
Reviewer: Swarna Prabha**

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING												
Tungsten Inert Gas (TIG)(carbon steel)	1	0.032		0.0055	0.0005			0.000	0.000	0.000	0.000	0.000
				0.0055	0.0005			0.000	0.000	0.000	0.000	0.000
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene												
Oxymethane												
Plasma**												
EMISSION TOTALS												
Potential Emissions lbs/hr								1.76E-04	1.60E-05	0.000	0.000	0.000
Potential Emissions lbs/day								4.22E-03	3.84E-04	0.00	0.00	0.000
Potential Emissions tons/year								7.71E-04	7.01E-05	0.00	0.00	0.000

METHODOLOGY

Calculations are conservative since these are maintenance welders and are seldom used.

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for plasma cutting is for 8 mm thick r

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

**Appendix A: Emissions Calculations
Fugitive Emissions from Paved Roads**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

Paved Roads (see AP-42 for more information)

Maximum Vehicular Speed: 10 mph
Average Distance of Haul: 0.25 miles

Vehicle Type	No. of One Way Trips per Hour	Weight
Dump Truck	1	40
total	1	

Weighted Average Gross Weight: 40 tons

Calculations:

$E = k(sL/2)^{0.65} * (W/3)^1$ AP-42 Chapter 13.2.1, Equation 1

- E = Emission factor (lbs/vehicle miles traveled(VMT))
- k = 0.016 particle size multiplier for PM-10
0.082 particle size multiplier for PM
- sL = 0.015 road surface silt content (g/m²)
- W = 40 weighted average vehicle weight (tons) (calculate from table above)

source: AP-42, chapter 13.2.1,

VMT= 2190 (miles/yr)

$E = \frac{PM}{VMT}$
E = 0.165963 lbs/VMT

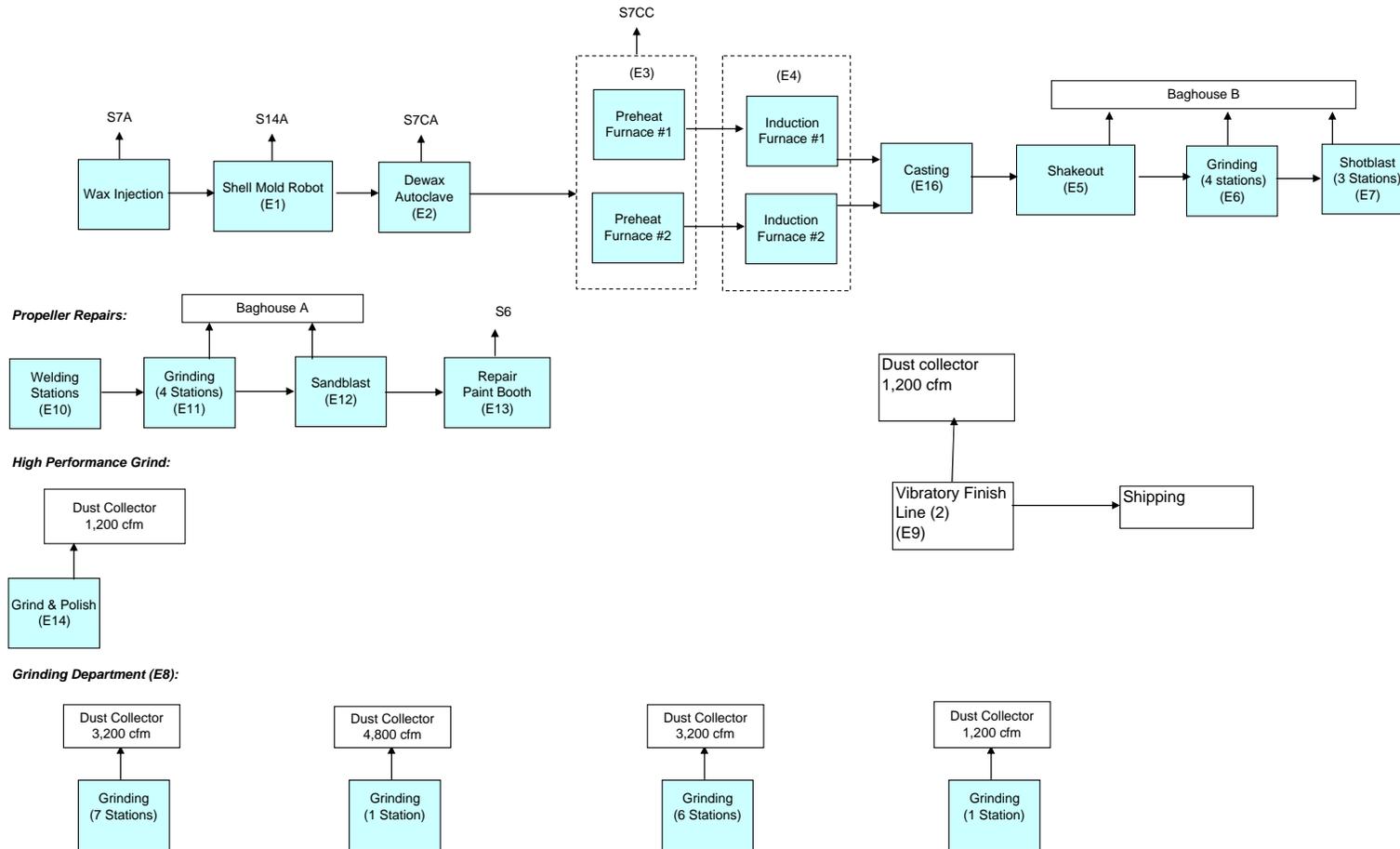
Potential PM Emissions (ton/yr) = Emission factor (lbs/VMT) * VMT / 2000 (lbs/ton)
Potential PM Emissions (ton/yr) = **0.18 tpy**

$E = \frac{PM-10}{VMT}$
E = 0.032383 lbs/VMT

Potential PM-10 Emissions (ton/yr) = Emission factor (lbs/VMT) * VMT / 2000 (lbs/ton)
Potential PM-10 Emissions (ton/yr) = **0.04 tpy**

Appendix A: Emissions Calculations
Flow diagram- Control Devices

Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
Permit No. : M097-28135-00664
Reviewer: Swarna Prabha



Production:
 Induction Furnace #1: 50 lbs/heat * 4 heats/hr = 200 lbs/hr
 Induction Furnace #2: 150 lbs/heat * 4 heats/hr = 600 lbs/hr
 50 lbs metal produces 3 propellers
 Furnaces: 800 lbs/hr * 3 props/50 lbs = 48 props/hr
 Max = 420,480 props/yr (without bottleneck)

Vibratory Finish Lines: Potential = 110 props/day/line = 220 props/day
 Max = 80,300 props/year

Limited max in furnace (due to vibratory finish line bottleneck) = 1,338,333 lbs/year
 669.17 tons/year

**Appendix A: Emissions Calculations
Emission Summary**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

		Uncontrolled Potential Emissions (tons/year)													
		Emissions Generating Activity													
Category	Pollutant	(2) Induction FurnaceS (E4)	Pouring casting/cooling	Baghouse B Foundry operation	Baghouse A	Grind and Polish (E14)	(2) Vibratory Finish line (E9)	(15) Grinding stations (E8)	Nine Metal Haps	Repair- Paint Operation (E13)	Miscellaneous solvent usage	Natural Gas Combustion	Welding	Fugitive Emissions Paved Roads	TOTAL
Criteria Pollutants	PM	0.30	1.41	14.40	2.73	2.72	5.69	3.68	0.00	2.05	0.02	0.112	0.001	0.055	33.12
	PM10	0.29	0.69	14.40	2.73	2.72	0.57	3.68	0.00	2.05	0.02	0.450	0.001	0.011	27.60
	PM2.5	0.29	0.33	14.40	2.73	2.72	0.57	3.68	0.00	2.05	0.02	0.450	0.00	0.00	27.25
	SO2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.036	0.00	0.00	3.6E-02
	NOx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.92	0.00	0.00	5.92
	VOC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.12	1.5	0.33	0.00	0.00	13.9
	CO	0.0	2.01	0.0	0.0	0.0	0.0	0.0	0.0	0	0	4.97	0.00	0.00	6.98
Hazardous Air Pollutants	Ethylbenzene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Xylenes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1.73	0.01	0.00	0.00	0.00	1.74
	Benzene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	1.2E-04	0.00	0.00	1.2E-04
	MeOH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.038	0.00	0.00	0.00	0.00	3.8E-02
	Formaldehyde	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	4.44E-03	0.00	0.00	4.4E-03
	n-Hexane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	1.07E-01	0.00	0.00	1.1E-01
	Toluene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	5.76	0.00	2.01E-04	0.00	0.00	5.76
	Lead	3.35E-02	0.0	0.0	0.0	0.0	0.0	0.0	4.38E-01	0.00	0.00	2.96E-05	0.00	0.00	4.7E-01
	Zinc	0.00E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.18	0.00	0.00	0.00	0.00	1.8E-01
	Chromium	7.70E-05	0.0	0.0	0.0	0.0	0.0	0.0	4.53E+00	0.18	0.00	8.29E-05	0.00	0.00	4.7E+00
	Manganese	7.53E-03	0.0	0.0	0.0	0.0	0.0	0.0	1.75E-01	0.00	0.00	2.25E-05	7.0E-05	0.00	1.8E-01
	MIBK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.0E+00	0.00	0.00	4.6E-01
	Isocyanates	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	3.7E-02
	TEA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	2.5E-01
	Nickel	1.34E-04	0.00	0.00	0.00	0.00	0.00	0.00	1.5E+00	0.00	0.00	1.2E-04	0.00	0.00	1.4E
	Totals	4.12E-02								6.61	8.35	0.29	0.11	7.01E-05	15.40
	Worse Case HAP														

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

		Controlled Potential Emissions (tons/year)													
		Emissions Generating Activity													
Category	Pollutant	(2) Induction FurnaceS (E4)	Pouring casting/cooling	Baghouse B Foundry operation	Baghouse A	Grind and Polish (E14)	(2) Vibratory Finish line (E9)	(15) Grinding stations (E8)	Nine Metal Haps	Repair- Paint Operation (E13)	Miscellaneous solvent usage	Natural Gas Combustion	Welding	Fugitive Emissions Paved Roads	TOTAL
Criteria Pollutants	PM	0.30	0.014	0.14	0.027	0.027	0.057	0.037	0.00	0.103	0.02	0.112	0.00	0.05	0.84
	PM10	0.29	0.007	0.14	0.027	0.027	0.006	0.037	0.00	0.103	0.02	0.450	0.00	0.01	1.11
	PM2.5	0.29	0.003	0.14	0.027	0.027	0.006	0.037	0.00	0.103	0.02	0.450	0.00	0.00	1.10
	SO2	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.036	0.00	0.00	0.04
	NOx	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.92	0.00	0.00	5.92
	VOC	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.12	1.49	0.33	0.00	0.00	13.94
	CO	0.0	2.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.97	0.00	0.00	6.98
Hazardous Air Pollutants	Ethylbenzene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.000	0.00	0.00	0.00	0.00	0.00
	Xylenes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1.73	0.01	0.00	0.00	0.00	1.74
	Benzene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	1.24E-04	0.00	0.00	1.24E-04
	MeOH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.038	0.000	0.00	0.00	0.00	3.77E-02
	Formaldehyde	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	4.44E-03	0.00	0.00	4.44E-03
	n-Hexane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	1.07E-01	0.00	0.00	1.07E-01
	Toluene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	5.76	0.00	2.01E-04	0.00	0.00	5.76
	Lead	3.35E-02	0.0	0.0	0.0	0.0	0.0	0.0	4.38E-03	0.00	0.00	2.96E-05	0.00	0.00	3.79E-02
	Zinc	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.18	0.00	0.00	0.00	0.00	1.83E-01
	Chromium	7.70E-05	0.0	0.0	0.0	0.0	0.0	0.0	4.53E-02	0.18	0.00	8.29E-05	0.00	0.00	2.23E-01
	Manganese	7.53E-03	0.0	0.0	0.0	0.0	0.0	0.0	1.75E-03	0.00	0.00	2.25E-05	7.01E-05	0.00	6.38E-03
	MIBK	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	4.60E-01
	Isocyanates	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	3.70E-02
	TEA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	2.48E-01
	Nickel	1.34E-04	0.00	0.00	0.00	0.00	0.00	0.00	1.46E-02	0.00	0	1.24E-04	0.00	0.00	0.01
	Totals	4.1E-02								0.07	8.35	0.29	0.11	7.01E-05	8.86
	Worst case HAP														

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

- On May 8, 2008 U. S. EPA promulgated the new requirements for Prevention Of Significant Deterioration (PSD) for PM 2.5 emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC2-2, to include those requirements. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.
- There are no emission factors in AP42 for PM2.5, PM10 = PM2.5

**Appendix A: Emissions Calculations
Particulate, HAPs
Induction Furnace melting, Foundry operation and Grinding**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

Emissions from melting Metal

Process:	*Rate (tons iron/hr)	Pollutant	Emission Factor (lb/ton produced)	Emissions Before Control (ton/yr)	Type of control	Control Efficiency (%)	Emissions After Control (ton/yr)
Melting - 2 Electric Induction Furnaces <i>Source of Criteria Pollutant Factors: EPA SCC# 3-04-003-03 FIRE 6.01 AP-42 Ch. 12.10 Fifth edition 1995</i>	0.076	PM	0.90	0.30	none	0.00%	0.30
		PM-10	0.86	0.29	none	0.00%	0.29
		SO2	0.00	0.00			
		NOx	0.00	0.00			
		VOC	0.00	0.00			
		CO	0.00	0.00			
		chromium	0.00023	0.00008	none	0.00%	7.70E-05
		cobalt	0.00002	0.00001	none	0.00%	6.69E-06
		nickel	0.00040	0.00013	none	0.00%	1.34E-04
		arsenic	0.00008	0.00003	none	0.00%	2.68E-05
		cadmium	0.00004	0.00001	none	0.00%	1.34E-05
		manganese	0.02250	0.00753	none	0.00%	7.53E-03
		selenium	0.00001	0.00000	none	0.00%	3.35E-06
		Lead	0.10000	0.03347	none	0.00%	0.03347
Total HAPs							0.04

NOTES:

1. Emission factors from AP42 Table 12.10-5, SCC 3-04-003-03, No Data is available for CO, SO2, NOx and VOC.

* Rate (Process throughput) is based on 669.3 tons/yr of metal melted for both furnaces combined, due to the bottleneck from Vibratory finishing lines
There is no control on the melting furnaces.

Pouring, and cooling SCC-3-04-003-18 (gray foundries) AP-42- Table 12.10-7

Process	Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/ton)	Uncontrolled (lbs/hr)	Emission (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
Pouring/Cooling	PM	0.076	4.200	0.321	1.406	99.00%	0.003	0.014
	PM-10	0.076	2.060	0.157	0.689	99.00%	0.002	0.007
	PM-2.5	0.076	1.000	0.076	0.335	99.00%	0.001	0.003
	**CO	0.076	6.000	0.458	2.008	0.00%	0.458	2.008

**The CO emission factor for pouring/castings, and shakeout (PCS) operations used is 6.0 lbs per ton of metal charge based on the August 11, 2006 Indiana Department of Environmental Management (IDEM) document, "Notice of Self-Disclosure for CO Emissions from PCS Operations within the Foundry Sector".

Emissions Controlled with Baghouse B (4,800 CFM)- Foundry Operation- shakeout, grinding, and shotblasting operation.

Process	Pollutant	Maximum Rate (tons/hr)	***Emission Factor (lbs/ton)	Uncontrolled (lbs/hr)	Emission (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
One (1) Pneumatic shakeout unit (E5)	PM	0.076	43.020	3.287	14.397	99.00%	0.033	0.144
Four (4) Cutoff & Grind Gate (E6)	PM-10	0.076	43.020	3.287	14.397	99.00%	0.033	0.144
Three (3) Wheelabrator Airless Shotblasts (E7)	PM-2.5	0.076	43.020	3.287	14.397	99.00%	0.033	0.144

Emissions controlled with Baghouse A (3,200cfm)

Process	Pollutant	Maximum Rate (tons/hr)	***Emission Factor (lbs/ton)	Uncontrolled (lbs/hr)	Emission (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
Four (4) Hand Grinding Stations (E11)	PM	0.076	8.170	0.624	2.734	99.00%	0.006	0.027
One (1) Sand Blast Cabinet (E12)	PM-10	0.076	8.170	0.624	2.734	99.00%	0.006	0.027
	PM-2.5	0.076	8.170	0.624	2.734	99.00%	0.006	0.027

*** Emission factors for Baghouse B, and Baghouse A were provided by the source based on the dust collected before control during a month period (9/2/09-10/02/09)

**Appendix A: Emissions Calculations
Particulate, HAPs
Induction Furnace melting, Foundry operation and Grinding**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

Emissions Controlled with (one) 1200 CFM Collector E-14, associated with E14.

Process/control	Pollutant	Maximum Rate	*** Emission Factor	Uncontrolled Emission	Emission	Control Efficiency	Controlled Emission Rate	Controlled Emission Rate
		(tons/hr)	(lbs/ton)	(lbs/hr)	(tons/yr)	(%)	(lbs/hr)	(tons/yr)
Grind and Polish (E14)/ E-14	PM	0.076	8.140	0.622	2.724	99.00%	0.006	0.027
	PM-10	0.076	8.140	0.622	2.724	99.00%	0.006	0.027
	PM-2.5	0.076	8.140	0.622	2.724	99.00%	0.006	0.027

* Emission factors are based on

Emissions Controlled with (one) 1200 CFM Collector (E-9) associated with two VFL

Process/control	Pollutant	Maximum Rate	(1) Emission Factor	Uncontrolled Emission	Emission	Control Efficiency	Controlled Emission Rate	Controlled Emission Rate
		(tons/hr)	(lbs/ton)	(lbs/hr)	(tons/yr)	(%)	(lbs/hr)	(tons/yr)
** (2) Vibratory Finish Lines (E9)/ E-9	PM	0.076	17.000	1.299	5.689	99.00%	0.013	0.057
	PM-10	0.076	1.700	0.130	0.569	99.00%	0.001	0.006
	PM-2.5	0.076	1.700	0.130	0.569	99.00%	0.001	0.006

** This process has three finishing steps in the process. Two steps of finishing operation are wet operations (negl. emissions), and the third step is a dry operation.

(1) EPA WebFIRE PM and PM10 emission factors for Grey Iron Foundries - Grinding/Cleaning (Table 12.10-7, SCC#30400340)

Grinding operations E8 /Process with control filters

Process/Control	Pollutant	Maximum Rate	***Emission Factor	Uncontrolled Emission	Emission	Control Efficiency	Controlled Emission Rate	Controlled Emission Rate
		(tons/hr)	(lbs/ton)	(lbs/hr)	(tons/yr)	(%)	(lbs/hr)	(tons/yr)
(7) Grinding Station E8 (3200 CFM) E7-3200	PM	0.076	9.950	0.760	3.330	99.00%	0.008	
	PM-10	0.076	9.950	0.760	3.330	99.00%	0.008	0.033
	PM-2.5	0.076	9.950	0.760	3.330	99.00%	0.008	0.033
(1) Grinding Station E8 (4,800CFM) E1-4800	PM	0.076	0.270	0.021	0.090	99.00%	0.000	0.001
	PM-10	0.076	0.270	0.021	0.090	99.00%	0.000	0.001
	PM-2.5	0.076	0.270	0.021	0.090	99.00%	0.000	0.001
(1) Grinding Station E8 (1,200CFM) E1-1200	PM	0.076	0.210	0.016	0.070	99.00%	0.000	0.001
	PM-10	0.076	0.210	0.016	0.070	99.00%	0.000	0.001
	PM-2.5	0.076	0.210	0.016	0.070	99.00%	0.000	0.001
(6) Grinding Station E8 (3,200CFM) E6-3200	PM	0.076	0.580	0.044	0.194	99.00%	0.000	0.002
	PM-10	0.076	0.580	0.044	0.194	99.00%	0.000	0.002
	PM-2.5	0.076	0.580	0.044	0.194	99.00%	0.000	0.002
Total tons/yr	PM			0.841	3.68			0.037
Total tons/yr	PM-10			0.841	3.68			0.037
Total tons/yr	PM-2.5			0.841	3.68			0.037

NOTE:

*** Emission factors for Grinding and Polishing operation controlled by dust collector E-14, Units E8 (grinders) consisting of dust collectors E7-3200, E1-4800, E1-1200, and E6-3200 , were provided by the source based on the dust collected before control during a month period (9/2/09-10/02/09).

1. The potential emissions are calculated based on 669.3 tons/yr of metal melted for both furnaces combined, due to the bottleneck from Vibratory Finish lines
2. There is no control on melting furnaces.

There are no emissions for PM2.5 in AP42, PM10 = PM2.5.

METHODOLOGY

Uncontrolled Emission Rate (lbs/hr) = Maximum Rate (tons/hr) x Emissions (lbs/ton)

Uncontrolled Emission Rate (tons/yr) = Throughput (lbs/hr) x 1 ton/2000 lbs x Emissions (lbs/ton) x 8760 (hrs/yr) / 2000 (lbs/ton)

Controlled Emission Rate (lbs/hr) = Uncontrolled Emission Rate (lbs/hr) x (1-Control Eff)

Controlled Emission Rate (tons/yr) = Uncontrolled Emission Rate (tons/yr) x (1-Control Eff)

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

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

Unit ID	* Total Uncontrolled Potential Particulate (PM) (tons/yr)	Weight % Chromium Compounds	Weight % Lead Compounds	Weight % Manganese Compounds	Weight % Nickel Compounds	Chromium Compounds Emissions (ton/yr)	Lead Compounds Emissions (ton/yr)	Manganese Compounds Emissions (ton/yr)	Nickel Compounds Emissions (ton/yr)
<i>shakeout, grinding and shotblasting operarion</i>									
One (1) Pneumatic shakeout unit (E5) Four (4) Cutoff & Grind Gate (E6) Wheelabrator Airless Shotblasts (E7)	14.397	15.50%	1.50%	0.60%	5.00%	2.231	0.216	0.086	0.720
Four (4) Hand Grinding Stations One (1) Sand Blast Cabinet (E12)	2.734	15.50%	1.50%	0.60%	5.00%	0.424	0.041	0.016	0.137
Grind and Polish (E14)	2.72	15.50%	1.50%	0.60%	5.00%	0.422	0.041	0.016	0.136
** (2) Vibratory Finish Lines (E9)	5.69	15.50%	1.50%	0.60%	5.00%	0.882	0.085	0.034	0.284
Grinding Stations E8	3.68	15.50%	1.50%	0.60%	5.00%	0.571	0.055	0.022	0.184
Total Uncontrolled Potential Emissions (tons/yr)						4.53	0.44	0.18	1.46
Control Efficiency (%)						99%			
Controlled Potential Emissions (tons/year)						0.045	0.004	0.002	0.015

Methodology:

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

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

Total Combined HAPs (tons/yr)	6.61
Controlled Potential Emissions (tons/year)	0.07

Notes:

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

* The Total Uncontrolled Potential Particulate (PM) Process Emissions from the InductionFurnace melting, Foundry operation and Grinding, taken from page 3 and 4 of 9, of this Appendix.

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

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

**Appendix A: Emissions Calculations
VOCs, Particulate, HAPs
Repair- Paint Operation-E13**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

PTE of PM and VOC from Propeller repair operation -metal coating

Potential Uncontrolled Emissions:																			
Material (as applied)	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	maximum capacity gal/unit	maximum capacity unit/hr	maximum usage (gal/hr)	Maximum (gal/yr)**	Maximum (gal/yr)*	Pounds VOC per gallon of coating less water	PTE of VOC lbs/hour	Actual PTE of VOC* lbs/ day	PTE of VOC** lbs/ day	PTE of VOC tons/ year	PTE of PM/PM10 before control ton/yr	PTE of PM/PM10 after control ton/yr	Transfer Efficiency
Primer-Paint	6.22	22.00%	0.00%	22.00%	0.00%	78.00%	0.0056	20.00	0.112	981.120	44.80	1.37	0.153	0.245	3.68	0.67	1.190	0.06	50.00%
Lacquer Thinner	6.95	100.00%	0.00%	100.00%	0.00%	0.00%	0.0069	20.00	0.138	1205.376	55.04	6.95	0.956	1.530	22.95	4.19	0.000	0.00	50.00%
Glaze Coat	7.90	23.00%	0.00%	23.00%	0.00%	77.00%	0.0023	20.00	0.045	394.200	18.00	1.82	0.082	0.131	1.96	0.36	0.599	0.03	50.00%
Primer Reducer	8.01	98.00%	0.00%	97.50%	0.00%	2.00%	0.0006	20.00	0.013	110.376	5.04	7.81	0.098	0.157	2.36	0.43	0.004	0.00	50.00%
Spray paint	6.76	26.00%	0.00%	71.00%	0.00%	11.00%	0.0012	20.00	0.023	204.984	9.36	4.80	0.112	0.180	2.70	0.49	0.256	0.01	50.00%
Xylene	7.26	100.00%	0.00%	100.00%	0.00%	0.00%	0.0025	20.00	0.050	438.000	20.00	7.26	0.363	0.581	8.71	1.59	0.000	0.00	150.00%
Toluene	7.26	100.00%	0.00%	100.00%	0.00%	0.00%	0.0069	20.00	0.138	1208.880	55.20	7.26	1.002	1.603	24.05	4.39	0.000	0.00	250.00%

*Repair paint Booth operates only 400 hours per year or 8 hours per week (1.6 hrs per day)

** Paint usage 24 hours a day, 8760 hours per year

4.43 66.41 12.12 2.05 0.10

Control efficiency

95%

Repair Booth HAPs

	Maximum Usage (gal/yr)	Density (lb/gal)	Maximum Usage (lb/yr)	Weight % Xylenes	Xylenes Emissions (tons/yr)	Weight % Toluene	Toluene Emissions (tons/yr)	Weight % MIBK	MIBK Emissions (tons/yr)	Weight % EB	EB Emissions (tons/yr)	Weight % MeOH	MeOH Emissions (tons/yr)	Weight % Isocyanates	Isocyanates Emissions (tons/yr)	Weight % Chromium	Chromium Emissions (tons/yr)	Weight % Zinc	Zinc Emissions (tons/yr)	Weight % TEA	TEA Emissions (tons/yr)	Total (tons/yr)
Primer-Paint	981.12	6.22	6102.57	4%	0.12	5%	0.15	9%	0.27	0%	0	0%	0.00	0%	0.00	6%	0.18	6%	0.18	0%	0.00	0.92
Lacquer Thinner	1205.4	6.95	8377.53	0%	0.00	29%	1.21	4%	0.17	0%	0	1%	0.04	0%	0.00	0%	0.00	0%	0.00	0%	0.00	1.42
Glaze Coat	394.2	7.90	3114.18	0%	0.00	0%	0.00	0%	0.00	0%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0.00
Primer Reducer	110.4	8.0	884.30	4%	0.02	0%	0.00	4%	0.02	0%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0.04
Spray Paint	205.0	6.8	1385.80	0%	0.00	0%	0.00	0.0%	0.00	0.5%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0.00
Xylene	438.0	7.3	3179.88	100%	1.59	0%	0.00	0.0%	0.00	0.0%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.00	1.59
Toluene	1208.9	7.3	8776.47	0%	0.00	100%	4.39	0.0%	0.00	0.0%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.00	4.39
					1.73		5.76		0.46		0.00		0.038		0.00		0.18		0.18		0.00	8.35

METHODOLOGY

HAPS emission rate (tons/yr) = [Maximum Usage (lb/yr)] * [Weight % HAP] * [1 ton/2000 lbs]
There are no emissions for PM2.5 in AP42, PM10 = PM2.5.

METHODOLOGY

Maximum Usage (gals/hour) = [Maximum Capacity (unit/hr)] x [Maximum Capacity (gal/unit)]

VOC (lbs/gal) = [Density (lbs/gal)] x [Weight % VOC/100%]

PTE of VOC (lbs/hr) = [Maximum Usage (lbs/hr)] * [Weight % VOC/100%]

PTE of VOC (lbs/day) = [PTE of VOC (lbs/hr)] * [24 hours/day]

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

PTE PM/PM10 (lbs/hr) = [Maximum Usage (gals/hour)] x [Weight % solids/100%]

PTE of PM/PM10 Before Controls (tons/year) = [PTE PM/PM10 (lbs/hour)] x [8760 (hours/year)] x [1 ton/2000 lbs] x [1 - Transfer Efficiency %]

PTE PM/PM10 After Controls (tons/yr) = [PTE of PM/PM10 (tons/yr)] x [1-(% control efficiency/100%)]

ACRONYMS

MeOH = Methanol

EB = ethylbenzene

MIBK = methyl isobutyl ketone

HCOH = formaldehyde

**Appendix A: Emissions Calculations
VOCs, Particulate, HAPs
Misc. Solvent Usage**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

PTE of PM and VOC from Propeller misc. solvent usage

Potential Uncontrolled Emissions:																	
Material (as applied)	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	maximum usage (gal/hr)	Maximum (gal/yr)	Maximum (gal/yr)* (actual)	Pounds VOC per gallon of coating less water	PTE of VOC lbs/hour	Actual PTE of VOC* lbs/ day	PTE of VOC lbs/ day**	PTE of VOC tons/ year	PTE of PM/PM10 before control ton/yr	PTE of PM/PM10 after control ton/yr	Transfer Efficiency
Mold release	7.01	100.00%	0.00%	75.00%	0.00%	0.00%	0.041	356.970	163.00	5.26	0.214	3.428	5.14	0.94	0.000	0.00	50.00%
Catalyst	9.01	26.72%	0.00%	26.72%	0.00%	73.28%	0.001	10.950	5.00	2.41	0.003	0.048	0.07	0.01	0.018	0.02	50.00%
TEA	6.06	100.00%	0.00%	100.00%	0.00%	0.00%	0.020	178.886	81.68	6.06	0.124	1.980	2.97	0.54	0.000	0.00	50.00%
Total											0.34	5.456	8.18	1.49	0.02	0.02	

* Facility operates 4,000 hours per year (or 16 hours/day).

** facility operating 24 hours per day.

Repair Booth HAPs

	Maximum Usage	Density	Maximum Usage	Weight %	Xylenes Emissions	Weight %	Toluene Emissions	Weight %	MIBK Emissions	Weight %	EB Emissions	Weight %	MeOH Emissions	Weight %	Isocyanates Emissions	Weight %	Chromium Emissions	Weight %	Zinc Emissions	Weight %	TEA Emissions	Total
Operation and Material	(gal/yr)	(lb/gal)	(lb/yr)	%	(tons/yr)	%	(tons/yr)	%	(tons/yr)	%	(tons/yr)	%	(tons/yr)	%	(tons/yr)	%	(tons/yr)	%	(tons/yr)	%	(tons/yr)	(tons/yr)
Mold Release	357.0	7.01	2502.36	0%	0.00	0%	0.00	0%	0.00	0%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0.00
Catalyst	11.0	9.01	98.66	13%	0.01	0%	0.00	0%	0.00	0%	0	0%	0.00	75%	0.04	0%	0.00	0%	0.00	0%	0.00	0.04
TEA	178.9	6.06	495.00	0%	0.00	0%	0.00	0%	0.00	0%	0	0%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.25	0.25
					0.01		0.00		0.00		0.00		0.000		0.04		0.00		0.00		0.25	0.29

NOTE: Mold release is sprayed on the molds to release the castings

Catalyst is used in the mold making operation

TEA is used for pH balance

METHODOLOGY

HAPS emission rate (tons/yr) = [Maximum Usage (lb/yr)] * [Weight % HAP] * [1 ton/2000 lbs]

ACRONYMS

MeOH = Methanol
MIBK = methyl isobutyl ketone

EB = ethylbenzene
HCOH = formaldehyde

METHODOLOGY

Maximum Usage *(gals/hour) = [Maximum Capacity (unit/hr)] x [Maximum Capacity (gal/unit)]

VOC (lbs/gal) = [Density (lbs/gal)] x [Weight % VOC/100%]

PTE of VOC (lbs/hr) = [Maximum Usage (lbs/hr)] * [Weight % VOC/100%]

PTE of VOC (lbs/day) = [PTE of VOC (lbs/hr)] * [24 hours/day]

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

PTE PM/PM10 (lbs/hr) = [Maximum Usage (gals/hour) x [Weight % solids/100%]

PTE of PM/PM10 Before Controls (tons/year) = [PTE PM/PM10 (lbs/hour)] x [8760 (hours/year)] x [1 ton/2000 lbs] x [1 - Transfer Efficiency %]

PTE PM/PM10 After Controls (tons/yr) = [PTE of PM/PM10 (tons/yr)] x [1-(% control efficiency/100%)]

Appendix A: Emissions Calculations
VOCs, Particulate, HAPs
Natural Gas Combustion Only
MM BTU/HR <100

Page 8 of 10 ATSD App A

Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prhaba

Pollutant	PM*	PM10*	SO2	NOx**	VOC	CO	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
Emission Factor (lb/MMCF)	1.9	7.6	0.6	100	5.5	84.0	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03

Emission Unit	Number of Units	Unit Heat Input Capacity MMBtu/hr	Combined Total Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Potential Emission tons/yr															
					PM*	PM10*	SO2	NOx**	VOC	CO	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
Bldg 14A Dehumidifier (E1)	1	0.173	0.173	1.52	0.001	0.01	0.000	0.1	0.004	0.1	1.6E-06	9.1E-07	5.7E-05	1.4E-03	2.6E-06	3.8E-07	8.3E-07	1.1E-06	2.9E-07	1.6E-06
Shallmaker Boiler	1	0.400	0.400	3.50	0.003	0.013	0.001	0.175	0.010	0.147	3.68E-06	2.10E-06	1.31E-04	3.15E-03	5.96E-06	8.76E-07	1.93E-06	2.45E-06	6.66E-07	3.68E-06
Bldg 7C Autoclave Boiler (E2)	1	2.000	2.000	17.52	0.017	0.07	0.005	0.9	0.048	0.7	1.8E-05	1.1E-05	6.6E-04	1.6E-02	3.0E-05	4.4E-06	9.6E-06	1.2E-05	3.3E-06	1.8E-05
Bldg 7C Pre-Heat Furnace (E3)	1	3.000	3.000	26.28	2.5E-02	1.0E-01	7.9E-03	1.3E+00	7.2E-02	1.1E+00	2.8E-05	1.6E-05	9.9E-04	2.4E-02	4.5E-05	6.6E-06	1.4E-05	1.8E-05	5.0E-06	2.8E-05
Bldg 7C Afterburner (E3)	1	0.750	0.750	6.57	0.006	0.02	0.002	0.3	0.018	0.3	6.9E-06	3.9E-06	2.5E-04	5.9E-03	1.1E-05	1.6E-06	3.6E-06	4.6E-06	1.2E-06	6.9E-06
Bldg 7C Roof Top Unit (E17)	1	4.000	4.000	35.04	0.033	0.13	0.011	1.8	0.096	1.5	3.7E-05	2.1E-05	1.3E-03	3.2E-02	6.0E-05	8.8E-06	1.9E-05	2.5E-05	6.7E-06	3.7E-05
Bldg 1 Heater (E16)	1	0.165	0.165	1.45	1.4E-03	5.5E-03	4.3E-04	7.2E-02	4.0E-03	6.1E-02	1.5E-06	8.7E-07	5.4E-05	1.3E-03	2.5E-06	3.6E-07	7.9E-07	1.0E-06	2.7E-07	1.5E-06
Bldg 2 Heater (E16)	1	0.080	0.080	0.70	0.001	0.00	0.000	0.0	0.002	0.0	7.4E-07	4.2E-07	2.6E-05	6.3E-04	1.2E-06	1.8E-07	3.9E-07	4.9E-07	1.3E-07	7.4E-07
Bldg 3 Heater (E16)	1	0.250	0.250	2.19	0.002	0.01	0.001	0.1	0.006	0.1	2.3E-06	1.3E-06	8.2E-05	2.0E-03	3.7E-06	5.5E-07	1.2E-06	1.5E-06	4.2E-07	2.3E-06
Bldg 4 Heater (E16)	1	0.165	0.165	1.45	0.001	0.01	0.000	0.1	0.004	0.1	1.5E-06	8.7E-07	5.4E-05	1.3E-03	2.5E-06	3.6E-07	7.9E-07	1.0E-06	2.7E-07	1.5E-06
Bldg 5 Heater (E16)	1	0.200	0.200	1.75	0.002	0.01	0.001	0.1	0.005	0.1	1.8E-06	1.1E-06	6.6E-05	1.6E-03	3.0E-06	4.4E-07	9.6E-07	1.2E-06	3.3E-07	1.8E-06
Bldg 6 Heater (E16)	1	0.250	0.250	2.19	0.002	0.01	0.001	0.1	0.006	0.1	2.3E-06	1.3E-06	8.2E-05	2.0E-03	3.7E-06	5.5E-07	1.2E-06	1.5E-06	4.2E-07	2.3E-06
Bldg 7A Heater (E16)	1	0.225	0.225	1.97	0.002	0.01	0.001	0.1	0.005	0.1	2.1E-06	1.2E-06	7.4E-05	1.8E-03	3.4E-06	4.9E-07	1.1E-06	1.4E-06	3.7E-07	2.1E-06
Bldg 7C Heater (E16)	1	0.250	0.250	2.19	0.002	0.01	0.001	0.1	0.006	0.1	2.3E-06	1.3E-06	8.2E-05	2.0E-03	3.7E-06	5.5E-07	1.2E-06	1.5E-06	4.2E-07	2.3E-06
Bldg 13 Heater (E16)	1	0.750	0.750	6.57	0.006	0.02	0.002	0.3	0.018	0.3	6.9E-06	3.9E-06	2.5E-04	5.9E-03	1.1E-05	1.6E-06	3.6E-06	4.6E-06	1.2E-06	6.9E-06
Bldg 14 Warehouse (E16)	1	0.400	0.400	3.50	0.003	0.01	0.001	0.2	0.010	0.1	3.7E-06	2.1E-06	1.3E-04	3.2E-03	6.0E-06	8.8E-07	1.9E-06	2.5E-06	6.7E-07	3.7E-06
Bldg 14 Restroom Heater (E16)	1	0.060	0.060	0.53	0.000	0.00	0.000	0.0	0.001	0.0	5.5E-07	3.2E-07	2.0E-05	4.7E-04	8.9E-07	1.3E-07	2.9E-07	3.7E-07	1.0E-07	5.5E-07
Heater (2)	1	0.400	0.400	3.50	0.003	0.01	0.001	0.2	0.010	0.1	3.7E-06	2.1E-06	1.3E-04	3.2E-03	6.0E-06	8.8E-07	1.9E-06	2.5E-06	6.7E-07	3.7E-06
Totals	18	13.518	13.518		0.11	0.45	0.04	5.92	0.33	4.97	1.2E-04	7.1E-05	4.4E-03	1.1E-01	2.0E-04	3.0E-05	6.5E-05	8.3E-05	2.2E-05	1.2E-04

*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
 The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.
 There are no emissions for PM2.5 in AP42, PM10 = PM2.5.
Methodology
 Potential Throughput (MMCF) = Combined Total Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 MMCF/1,000 MMBtu
 Emission (tons/yr) = Throughput (MMCF/yr) * 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.
 All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu, MMCF = 1,000,000 Cubic Feet of Gas

Abbreviations
 PM = Particulate Matter NOx = Nitrous Oxides DCB = Dichlorobenzene Cr = Chromium
 PM10 = Particulate Matter (<10 VOC = Volatile Organic Compounds Pb = Lead Mn = Manganese
 SO2 = Sulfur Dioxide CO = Carbon Monoxide Cd = Cadmium Ni = Nickel

**Appendix A: Emissions Calculations
Welding**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
Permit No. : M097-28135-00664
Reviewer: Swarna Prabha**

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING												
Tungsten Inert Gas (TIG)(carbon steel)	1	0.032		0.0055	0.0005			0.000	0.000	0.000	0.000	0.000
				0.0055	0.0005			0.000	0.000	0.000	0.000	0.000
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene												
Oxymethane												
Plasma**												
EMISSION TOTALS												
Potential Emissions lbs/hr								1.76E-04	1.60E-05	0.000	0.000	0.000
Potential Emissions lbs/day								4.22E-03	3.84E-04	0.00	0.00	0.000
Potential Emissions tons/year								7.71E-04	7.01E-05	0.00	0.00	0.000

METHODOLOGY

Calculations are conservative since these are maintenance welders and are seldom used.

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for plasma cutting is for 8 mm thick r

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

**Appendix A: Emissions Calculations
Fugitive Emissions from Paved Roads**

**Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
MSOP No: M097-28135-00664
Reviewer: Swarna Prabha**

Paved Roads (see AP-42 for more information)

Maximum Vehicular Speed: 10 mph
Average Distance of Haul: 0.25 miles

Vehicle Type	No. of One Way Trips per Hour	Weight
Dump Truck	0.3	40
total	0.3	

Weighted Average Gross Weight: 40 tons

Calculations:

$E = k(sL/2)^{0.65} * (W/3)^1$ AP-42 Chapter 13.2.1, Equation 1

- E = Emission factor (lbs/vehicle miles traveled(VMT))
- k = 0.016 particle size multiplier for PM-10
0.082 particle size multiplier for PM
- sL = 0.015 road surface silt content (g/m²)
- W = 40 weighted average vehicle weight (tons) (calculate from table above)

source: AP-42, chapter 13.2.1,

VMT= 657 (miles/yr)

PM
E = 0.165963 lbs/VMT

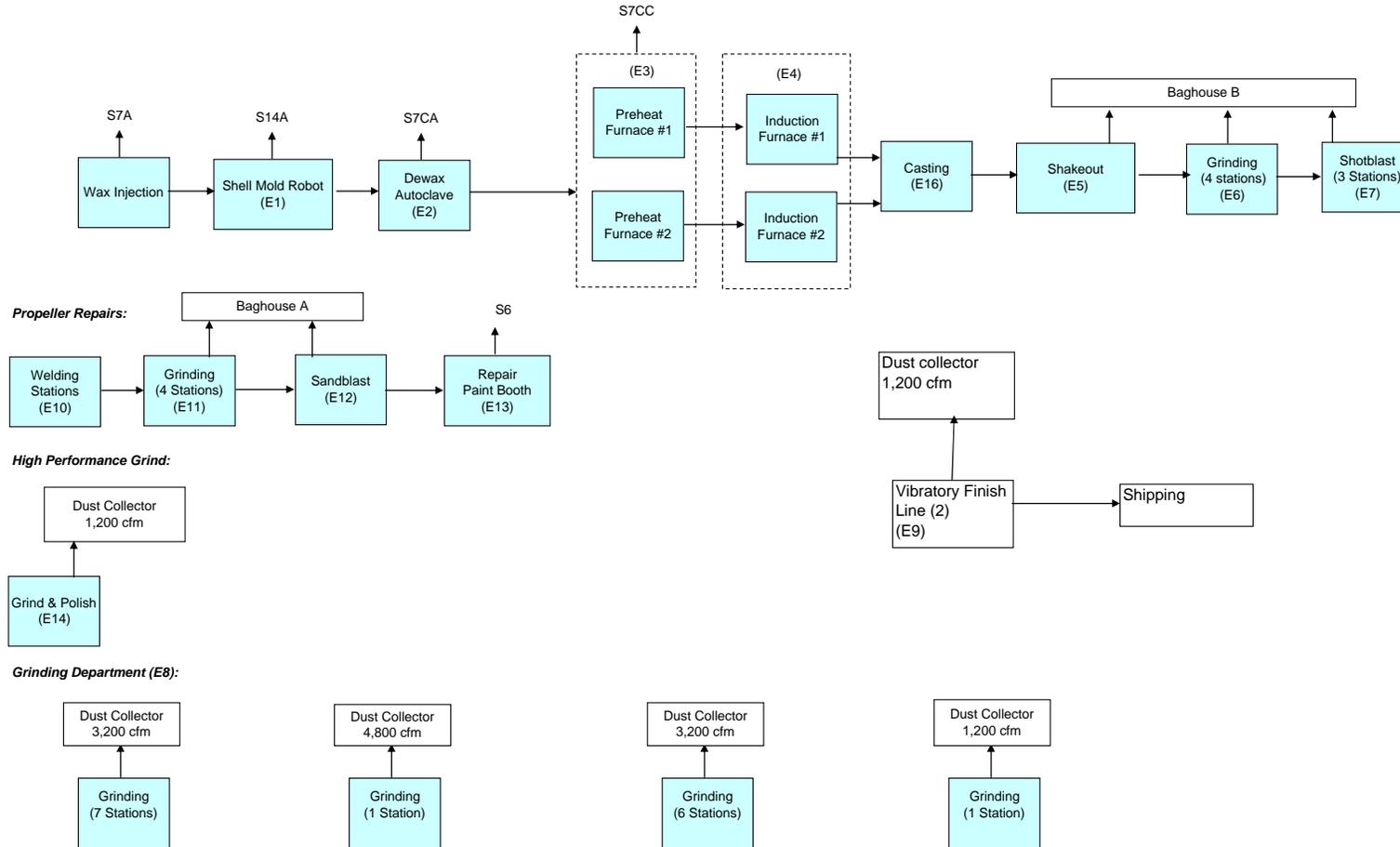
Potential PM Emissions (ton/yr) = Emission factor (lbs/VMT) * VMT / 2000 (lbs/ton)
Potential PM Emissions (ton/yr) = **0.05 tpy**

PM-10
E = 0.032383 lbs/VMT

Potential PM-10 Emissions (ton/yr) = Emission factor (lbs/VMT) * VMT / 2000 (lbs/ton)
Potential PM-10 Emissions (ton/yr) = **0.01 tpy**

Appendix A: Emissions Calculations
Flow diagram- Control Devices

Company Name: Precision Propeller Industries, Inc.
Address City IN Zip: 2427 North Ritter Avenue
Permit No. : M097-28135-00664
Reviewer: Swarna Prabha



Production:
 Induction Furnace #1: 50 lbs/heat * 4 heats/hr = 200 lbs/hr
 Induction Furnace #2: 150 lbs/heat * 4 heats/hr = 600 lbs/hr
 50 lbs metal produces 3 propellers
 Furnaces: 800 lbs/hr * 3 props/50 lbs = 48 props/hr
 Max = 420,480 props/yr (without bottleneck)

Vibratory Finish Lines: Potential = 110 props/day/line = 220 props/day
 Max = 80,300 props/year

Limited max in furnace (due to vibratory finish line bottleneck) = 1,338,333 lbs/year
 669.17 tons/year



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

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

TO: Bill Boehman
Precision Propeller Industries, Inc.
2427 N Ritter Ave
Indianapolis, IN 46218

DATE: June 8, 2010

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

SUBJECT: Final Decision
New Construction MSOP
097 - 28135 - 00664

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Holly Argiris Environmental Resources Management (ERM)
OAQ Permits Branch Interested Parties List

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

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

June 8, 2010

TO: Indianapolis-Marion County Public Library

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

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

Applicant Name: Precision Propeller Industries, Inc.
Permit Number: 097 - 28135 - 00664

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

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

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	LPOGOST 6/8/2010 Precision Propeller Industries, Inc. 097 - 28135 - 00664 final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING	
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: CERTIFICATE OF MAILING ONLY	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Bill Boehman Precision Propeller Industries, Inc. 2427 N Ritter Ave Indianapolis IN 46218 (Source CAATS) Via confirmed delivery										
2		Marion County Health Department 3838 N, Rural St Indianapolis IN 46205-2930 (Health Department)										
3		Mrs. Sandra Lee Watson 7834 E 100 S Marion IN 46953 (Affected Party)										
4		Indianapolis City Council and Mayors Office 200 East Washington Street, Room E Indianapolis IN 46204 (Local Official)										
5		Marion County Commissioners 200 E. Washington St. City County Bldg., Suite 801 Indianapolis IN 46204 (Local Official)										
6		Ms. Kathryn Watson Improving Kids Environment 8204 Claridge Rd Indianapolis IN 46260 (Affected Party)										
7		Holly Argiris Environmental Resources Management (ERM) 11350 N. Meridian # 200 Fidelity Plaza, Tower 2 Carmel IN 46032 (Consultant)										
8		Matt Mosier Office of Sustainability 2700 South Belmont Ave. Administration Bldg. Indianapolis IN 46221 (Local Official)										
9		Indianapolis-Marion County Public Library 2435 North Sherman Drive Indianapolis IN 46218 (Library)										
10		A-1 Awards 2500 N. Ritter Avenue Indianapolis IN 46218 (Affected Party)										
11		Debco Tool & Die 2422 N. Ritter Avenue Indianapolis IN 46218 (Affected Party)										
12		Environmental Pest Control 2421 N. Ritter Avenue Indianapolis IN 46218 (Affected Party)										
13		Ark Models Stamping 2401 N. Ritter Avenue Indianapolis IN 46218 (Affected Party)										
14		Indiana Underground Construction 4851 East 23rd Street Indianapolis IN 46218 (Affected Party)										
15		Indiana Barrier 2490 Graham Avenue Indianapolis IN 46218 (Affected Party)										

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
---	--	--	--

Mail Code 61-53

IDEM Staff	LPOGOST 6/8/2010 Precision Propeller Industries, Inc. 28135 (draft/final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee
											Remarks
1		Bernard 2419 N. Ritter Avenue Indianapolis IN 46218 (Affected Party)									
2		Mary Moriarty Adams City-County Councillor 241 City-County Building, 200 E. Washington St Indianapolis IN 46204 (Affected Party)									
3		Bob Cockrum 241 City-County Building, 200 E. Washington St Indianapolis IN 46204 (Affected Party)									
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
---	--	--	--