



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

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

TO: Interested Parties / Applicant  
DATE: December 7, 2006  
RE: Madison Precision Products / 077-19827-00019  
FROM: Nisha Sizemore  
Chief, Permits Branch  
Office of Air Quality

### Notice of Decision: Approval - Effective Immediately

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

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures  
FNPER.dot 03/23/06



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## MINOR SOURCE OPERATING PERMIT RENEWAL OFFICE OF AIR QUALITY

**Madison Precision Products, Inc.  
94 East 400 North  
Madison, Indiana 47250**

(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.

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

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

Operation Permit No.: 077-19827-00019	
Original signed by  Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: December 7, 2006  Expiration Date: December 7, 2011

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## SECTION A

## SOURCE SUMMARY

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

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

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The Permittee owns and operates a stationary aluminum automotive parts manufacturing source.

Authorized Individual:	Vice President of Human Resources
Source Address:	94 East 400 North, Madison, Indiana 47250
Mailing Address:	94 East 400 North, Madison, Indiana 47250
General Source Phone Number:	812 - 273 - 4702
SIC Code:	3363
County Location:	Jefferson
Source Location Status:	Nonattainment for PM <sub>2.5</sub> Attainment for all other criteria pollutants
Source Status:	Minor Source Operating Permit Program Minor Source, under PSD Rules and Nonattainment NSR Minor Source, Section 112 of the Clean Air Act

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

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

- (a) One (1) mechanical shotblasting unit, identified as B1, operation began in May 1989, using a cartridge filter for particulate control, exhausting inside the building, with a maximum blast rate of 230 pounds per hour of #50 steel grit.
- (b) One (1) mechanical shotblasting unit, identified as B4, operation began in July 1994, using a baghouse for particulate control, exhausting inside the building, with a maximum blast rate of 140 pounds per hour of #40 zinc cut wire.
- (c) One (1) mechanical shotblasting unit, identified as B6, operation began in 1996, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 320 pounds per hour of carbon steel cut wire.
- (d) One (1) mechanical shotblasting unit, identified as B7, operation began in 1997, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 405 pounds per hour of #50 steel shot.
- (e) One (1) mechanical shotblasting unit, identified as B-8, operation began in 1997, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 1,375 pounds per hour of carbon steel cut wire.
- (f) Three (3) natural gas fired reverberatory melt furnaces, identified as P1 – P3, installed by 1993, melting only clean charge, with maximum heat input capacities of 2.53, 2.53, and 3.0 million British thermal units per hour, exhausting to stacks P1, P2, and P3, respectively, and with a maximum throughput capacity of 1,500 pounds per hour of aluminum ingots, each.
- (g) Three (3) natural gas fired reverberatory melt furnaces, identified as P5 – P7, installed by 1993, melting only clean charge, with maximum heat input capacities of 0.80, 0.80, and 2.8

million British thermal units per hour, respectively, exhausting to stacks P5, P6, and P7, and with a maximum throughput capacity of 450, 450, and 1,300 pounds per hour of aluminum ingots, respectively.

- (h) Two (2) natural gas fired reverberatory melt furnaces, identified as P8 and P9, installed in 1996, melting only clean charge, with a maximum heat input capacity of 7.3 million British thermal units per hour, total, exhausting to stacks P8 and P9, and with a maximum throughput capacity of 3,300 pounds per hour of aluminum ingots, total.
- (i) One (1) natural gas fired reverberatory melt furnace, identified as P10, installed in 1998, melting only clean charge, with a maximum heat input capacity of 2.3 million British thermal units per hour, exhausting to stack P10, and with a maximum throughput capacity of 1,500 pounds of aluminum ingots per hour.
- (j) One (1) natural gas fired reverberatory melt furnace, identified as P11, installed in 2006, melting only clean charge, with a maximum heat input capacity of 1.7 million British thermal units per hour, exhausting to stack P11, and with a maximum throughput capacity of 1,200 pounds of aluminum ingots per hour.
- (k) Thirty-one (31) natural gas-fired heaters, identified as H1 – H33, with a total maximum capacity of 33.38 million British thermal units per hour.
- (l) One (1) stick welding station, with a maximum electrode usage of 200 pounds per year.
- (m) One (1) TIG welding station, with a maximum metal consumption of 20 pounds per year.
- (n) One (1) oxyacetylene flame cutting operation, with a maximum of 36 inches of metal cut per week.
- (o) Fifteen (15) electric holding furnaces, identified as F-1 – F-15, with negligible emissions. All emissions are attributed to the melting of the aluminum ingots.

## **SECTION B GENERAL CONDITIONS**

### **B.1 Permit No Defense [IC 13]**

This permit to operate does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

### **B.2 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.3 Effective Date of the Permit [IC13-15-5-3]**

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

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

- (a) This permit, M 077-19827-00019, 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. The submittal by the Permittee does require the certification by an "authorized individual" as

defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U.S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

#### B.10 Certification

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

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

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- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:  
  
Compliance Branch, Office of Air Quality  
Indiana Department of Environmental Management  
100 North Senate Avenue  
Indianapolis, 46204-2251
- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

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

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- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, 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 Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

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

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

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

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- (a) All terms and conditions of permits established prior to M 077-19827-00019 and issued pursuant to permitting programs approved into the state implementation plan have been either:
  - (1) incorporated as originally stated,
  - (2) revised, or
  - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

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

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The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least ninety (90) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

**B.15 Deviations from Permit Requirements and Conditions**

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

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

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

The Quarterly Deviation and Compliance Monitoring Report does require the certification by

an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

**B.16 Permit Renewal [326 IAC 2-6.1-7]**

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

Request for renewal shall be submitted to:

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

and

- (b) A timely renewal application is one that is:
- (1) Submitted at least ninety (90) days prior to the date of the expiration of this permit; and
  - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

**B.17 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]**

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- (a) Permit amendments and revision 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  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
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.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][IC13-17-3-2][IC 13-30-3-1]**

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

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

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

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

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

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

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

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

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- (a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing.
- (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]**

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

## SECTION C

## SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

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

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

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

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

**C.4 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.5 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  
Asbestos Section, Office of Air Quality  
100 North Senate Avenue  
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 2-7-1(34).

- (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 Accredited Asbestos Inspector**  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

## Testing Requirements

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

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

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

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
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 date. The notification submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ (and local agency) not later than forty-five (45) days after the completion of the testing. An extension may be granted by the 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.7 Compliance Requirements [326 IAC 2-1.1-11]

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

## Compliance Monitoring Requirements

### C.8 Compliance Monitoring [326 IAC 2-1.1-11]

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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.9 Monitoring Methods [326 IAC 3][40 CFR 60][40 CFR 63]

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

### C.10 Instrument Specifications [326 IAC 2-1.1-11]

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- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale

- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

C.11 Response to Excursions and Exceedances [326 IAC 2-7-5][326 IAC 2-7-6]

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

C.12 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 these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

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

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

### **Record Keeping and Reporting Requirements**

#### **C.13 Malfunctions Report [326 IAC 1-6-2]**

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

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

#### **C.14 General Record Keeping Requirements [326 IAC 2-6.1-5]**

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

C.15 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 Data Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) Unless otherwise specified in this permit, any report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description: Shot Blasting

- (a) One (1) mechanical shotblasting unit, identified as B1, operation began in May 1989, using a cartridge filter for particulate control, exhausting inside the building, with a maximum blast rate of 230 pounds per hour of #50 steel grit.
- (b) One (1) mechanical shotblasting unit, identified as B4, operation began in July 1994, using a baghouse for particulate control, exhausting inside the building, with a maximum blast rate of 140 pounds per hour of #40 zinc cut wire.
- (c) One (1) mechanical shotblasting unit, identified as B6, operation began in 1996, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 320 pounds per hour of carbon steel cut wire.
- (d) One (1) mechanical shotblasting unit, identified as B7, operation began in 1997, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 405 pounds per hour of #50 steel shot.
- (e) One (1) mechanical shotblasting unit, identified as B-8, operation began in 1997, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 1,375 pounds per hour of carbon steel cut wire.

(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 [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the shotblasting units:

- (1) B1 shall not exceed 0.96 pounds per hour when operating at a process weight of 0.115 tons per hour.
- (2) B4 shall not exceed 0.69 pounds per hour when operating at a process weight of 0.07 tons per hour.
- (3) B6 shall not exceed 1.2 pounds per hour when operating at a process weight of 0.16 tons per hour.
- (4) B7 shall not exceed 1.4 pounds per hour when operating at a process weight of 0.201 tons per hour.
- (5) B8 shall not exceed 3.19 pounds per hour when operating at a process weight of 0.688 tons per hour.

The pounds per hour limitations were 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:

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

## Compliance Determination Requirements

### D.1.2 Particulate Control

---

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

## Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

### D.1.3 Visible Emissions Notations

---

- (a) Visible emission notations of the shotblasting exhaust shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

### D.1.4 Baghouse/Dust Collector Parametric Monitoring

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- (a) The Permittee shall record the pressure drop across the baghouses/dust collectors used in conjunction with the shot blasting units at least once per day when the shot blasting units are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 4.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

#### D.1.5 Broken or Failed Bag Detection

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

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

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

#### D.1.6 Record Keeping Requirements

---

- (a) To document compliance with Condition D.1.3, the Permittee shall maintain records of visible emission notations of the shot blasting exhaust once per day, or when the visible emissions notations were not taken and the reason for it.
- (b) To document compliance with Condition D.1.4, the Permittee shall maintain records once per day of the pressure drop.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## SECTION D.2

## FACILITY OPERATION CONDITIONS

### Emissions Unit Description: Natural gas fired melt furnaces

- (f) Three (3) natural gas fired reverberatory melt furnaces, identified as P1 – P3, installed by 1993, melting only clean charge, with maximum heat input capacities of 2.53, 2.53, and 3.0 million British thermal units per hour, exhausting to stacks P1, P2, and P3, respectively, and with a maximum throughput capacity of 1,500 pounds per hour of aluminum ingots, each.
- (g) Three (3) natural gas fired reverberatory melt furnaces, identified as P5 – P7, installed by 1993, melting only clean charge, with maximum heat input capacities of 0.80, 0.80, and 2.8 million British thermal units per hour, respectively, exhausting to stacks P5, P6, and P7, respectively, and with a maximum throughput capacity of 450, 450, and 1,300 pounds per hour of aluminum ingots, respectively.
- (h) Two (2) natural gas fired reverberatory melt furnaces, identified as P8 and P9, installed in 1996, melting only clean charge, with a maximum heat input capacity of 7.3 million British thermal units per hour, total, exhausting to stacks P8 and P9, and with a maximum throughput capacity of 3,300 pounds per hour of aluminum ingots, total.
- (i) One (1) natural gas fired reverberatory melt furnace, identified as P10, installed in 1998, melting only clean charge, with a maximum heat input capacity of 2.3 million British thermal units per hour, exhausting to stack P10, and with a maximum throughput capacity of 1,500 pounds of aluminum ingots per hour.
- (j) One (1) natural gas fired reverberatory melt furnace, identified as P11, installed in 2006, melting only clean charge, with a maximum heat input capacity of 1.7 million British thermal units per hour, exhausting to stack P11, and with a maximum throughput capacity of 1,200 pounds of aluminum ingots per hour.
- (k) Thirty-one (31) natural gas-fired heaters, identified as H1 – H31, with a total maximum capacity of 33.38 million British thermal units per hour.
- (l) One (1) stick welding station, with a maximum electrode usage of 200 pounds per year.
- (m) One (1) TIG welding station, with a maximum metal consumption of 20 pounds per year.
- (n) One (1) oxyacetylene flame cutting operation, with a maximum of 36 inches of metal cut per week.
- (o) Fifteen (15) electric holding furnaces, identified as F-1 – F-15, with negligible emissions. All emissions are attributed to the melting of the aluminum ingots.

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

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

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

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the melting furnaces:

- (1) P1 shall not exceed 3.38 pounds per hour when operating at a process weight of 0.75 tons per hour.

- (2) P2 shall not exceed 3.38 pounds per hour when operating at a process weight of 0.75 tons per hour.
- (3) P3 shall not exceed 3.38 pounds per hour when operating at a process weight of 0.75 tons per hour.
- (4) P5 shall not exceed 1.51 pounds per hour when operating at a process weight of 0.225 tons per hour.
- (5) P6 shall not exceed 1.51 pounds per hour when operating at a process weight of 0.225 tons per hour.
- (6) P7 shall not exceed 3.07 pounds per hour when operating at a process weight of 0.65 tons per hour.
- (7) P8 shall not exceed 3.07 pounds per hour when operating at a process weight of 0.65 tons per hour.
- (8) P9 shall not exceed 4.10 pounds per hour when operating at a process weight of 1 ton per hour.
- (9) P10 shall not exceed 3.38 pounds per hour when operating at a process weight of 0.75 tons per hour.
- (10) P11 shall not exceed 2.91 pounds per hour when operating at a process weight of 0.60 tons per hour.

The pounds per hour limitations were 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:

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

#### D.2.2 Clean Charge

---

The natural gas fired reverberatory furnaces, identified as P1 – P3 and P7 – P11, shall only melt clean charge.

### Compliance Determination Requirements

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

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Within 180 days of permit issuance, in order to show compliance with of 326 IAC 2-6.1 (MSOP) and to verify the use of alternative emission factors, the source must perform PM and PM<sub>10</sub> performance testing for the natural gas fired reverberatory melt furnaces, identified as P1 – P3 and P5 – P11, utilizing methods as approved by the Commissioner. Any two (2) melt furnaces from Group 1 (P1, P2, P3, P7, P8, P9, and P10) with one (1) melt furnace from Group 2 (P5 and P6) along with the one (1) melt furnace, identified as P11, in Group 3, shall be tested. PM<sub>10</sub> includes filterable and condensable PM<sub>10</sub>.

### Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

#### D.2.4 Visible Emissions Notations

---

- (a) Visible emission notations of the reverberatory melt furnaces stack exhaust (P1 – P3 and P7 – P11) shall be performed once per day during normal daylight operations. A trained

employee shall record whether emissions are normal or abnormal.

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

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

**D.2.5 Record Keeping Requirements**

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- (a) To document compliance with Condition D.2.4, the Permittee shall maintain records of daily visible emission notations of the melt furnaces stack exhaust.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

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

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

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

<b>Company Name:</b>	<b>Madison Precision Products, Inc.</b>
<b>Address:</b>	<b>94 East 400 North</b>
<b>City:</b>	<b>Madison, Indiana 47250</b>
<b>Phone #:</b>	<b>812-273-4702</b>
<b>MSOP #:</b>	<b>077-19827-00019</b>

I hereby certify that **Madison Precision Products, Inc.** is

- still in operation.  
 no longer in operation.

I hereby certify that **Madison Precision Products, Inc.** is

- in compliance with the requirements of MSOP **077-19827-00019**.  
 not in compliance with the requirements of MSOP **077-19827-00019**.

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

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

<b>Noncompliance:</b>

**MALFUNCTION REPORT**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
FAX NUMBER - 317 233-6865**

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

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

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

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

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

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

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

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

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

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

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

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

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_

INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

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

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

\*SEE PAGE 2

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

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

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

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

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

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

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

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

**Technical Support Document (TSD) for a Minor Source Operating Permit**

**Source Background and Description**

<b>Source Name:</b>	<b>Madison Precision Products, Inc.</b>
<b>Source Location:</b>	<b>94 East 400 North, Madison, Indiana 47250</b>
<b>County:</b>	<b>Jefferson</b>
<b>SIC Code:</b>	<b>3363</b>
<b>Operation Permit No.:</b>	<b>MSOP 077-11368-00019</b>
<b>Operation Permit Issuance Date:</b>	<b>February 10, 2000</b>
<b>Permit Renewal No.:</b>	<b>MSOP 077-19827-00019</b>
<b>Permit Reviewer:</b>	<b>Brian J. Pedersen</b>

The Office of Air Quality (OAQ) has reviewed an application from Madison Precision Products, Inc. relating to the operation of an aluminum automotive parts manufacturing source.

**Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) mechanical shotblasting unit, identified as B1, operation began in May 1989, using a cartridge filter for particulate control, exhausting inside the building, with a maximum blast rate of 230 pounds per hour of #50 steel grit.
- (b) One (1) mechanical shotblasting unit, identified as B4, operation began in July 1994, using a baghouse for particulate control, exhausting inside the building, with a maximum blast rate of 140 pounds per hour of #40 zinc cut wire.
- (c) One (1) pneumatic shotblasting unit, identified as B5, operation began in February 1994, using a baghouse for particulate control, exhausting inside the building, with a maximum blast rate of 100 pounds per hour of glass beads.
- (d) One (1) mechanical shotblasting unit, identified as B6, operation began in 1996, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 320 pounds per hour of carbon steel cut wire.
- (e) One (1) mechanical shotblasting unit, identified as B7, operation began in 1997, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 405 pounds per hour of #50 steel shot.
- (f) One (1) mechanical shotblasting unit, identified as B-8, operation began in 1997, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 1,375 pounds per hour of carbon steel cut wire.
- (g) Three (3) natural gas fired reverberatory melt furnaces, identified as P1 – P3, installed by 1993, melting only clean charge, with maximum heat input capacities of 2.53, 2.53, and 3.0 million British thermal units per hour, exhausting to stacks P1, P2, and P3, respectively, and with a maximum throughput capacity of 1,500 pounds per hour of aluminum ingots, each.
- (h) Three (3) natural gas fired reverberatory melt furnaces, identified as P5 – P7, installed by 1993, melting only clean charge, with maximum heat input capacities of 0.80, 0.80, and 2.8 million British thermal units per hour, respectively, exhausting to stacks P5, P6, and

P7, and with a maximum throughput capacity of 450, 450, and 1,300 pounds per hour of aluminum ingots, respectively.

- (i) Two (2) natural gas fired reverberatory melt furnaces, identified as P8 and P9, installed in 1996, melting only clean charge, with a maximum heat input capacity of 7.3 million British thermal units per hour, total, exhausting to stacks P8 and P9, and with a maximum throughput capacity of 3,300 pounds per hour of aluminum ingots, total.
- (j) One (1) natural gas fired reverberatory melt furnace, identified as P10, installed in 1998, melting only clean charge, with a maximum heat input capacity of 2.3 million British thermal units per hour, exhausting to stack P10, and with a maximum throughput capacity of 1,500 pounds of aluminum ingots per hour.
- (k) One (1) natural gas fired reverberatory melt furnace, identified as P11, installed in 2006, melting only clean charge, with a maximum heat input capacity of 1.7 million British thermal units per hour, exhausting to stack P11, and with a maximum throughput capacity of 1,200 pounds of aluminum ingots per hour.
- (l) Thirty-one (31) natural gas-fired heaters, identified as H1 – H31, with a total maximum capacity of 33.38 million British thermal units per hour.
- (m) One (1) stick welding station, with a maximum electrode usage of 200 pounds per year.
- (n) One (1) TIG welding station, with a maximum metal consumption of 20 pounds per year.
- (o) One (1) oxyacetylene flame cutting operation, with a maximum of 36 inches of metal cut per week.
- (p) Fifteen (15) electric holding furnaces, identified as F-1 – F-15, with negligible emissions. All emissions are attributed to the melting of the aluminum ingots.

### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted emission units operating at this source during this review process.

### **Existing Approvals**

The source has been operating under previous approvals including, but not limited to, the following:

- (a) MSOP 077-11368-00019, issued on February 10, 2000;
- (b) NOC 077-12227-00019, issued on May 26, 2000;
- (c) NOC 077-14856-00019, issued on October 29, 2001;
- (d) NOC 077-16723-00019, issued on February 7, 2003;
- (e) MPR 077-17377-00019, issued on December 5, 2003; and
- (f) NOC 077-21943-00019, issued on March 3, 2006.

All conditions from previous approvals were incorporated into this permit.

### Enforcement Issue

There are no enforcement actions pending.

### Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
P1	Melt furnace	34	2.5	125	280
P2	Melt furnace	34	2.5	125	280
P3	Melt furnace	33.5	1.25	130	192
P7	Melt furnace	40	2.75	11,000	300
P8	Melt furnace	36	2.0	11,000	300
P9	Melt furnace	36	2.75	16,500	300
P10	Melt furnace	36	2.0	11,000	300
P11	Melt Furnace	15.0	1.25	16,000	300

### Recommendation

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

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

A complete application for the purposes of this review was received on November 12, 2004.

### Emission Calculations

See pages 1 through 14 of Appendix A of this document for detailed emission calculations.

### Potential to Emit of the Source Before Controls

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

Pollutant	Potential to Emit (tons/yr)
PM	77.8
PM <sub>10</sub>	68.9
SO <sub>2</sub>	0.151

Pollutant	Potential to Emit (tons/yr)
VOC	1.38
CO	21.1
NO <sub>x</sub>	25.1

HAPs	Potential to Emit (tons/yr)
Fluorine	0.802
Hexane	0.452
Chlorine	0.113
Total	1.39

\*All remaining HAPs from combustion are deemed negligible.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants is less than one hundred (100) tons per year and the potential to emit of NO<sub>x</sub> and PM/PM<sub>10</sub> is greater than twenty five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. An MSOP will be issued.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. An MSOP will be issued.
- (c) Fugitive Emissions  
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

**County Attainment Status**

The source is located in Jefferson County.

Pollutant	Status
PM <sub>2.5</sub>	nonattainment
PM <sub>10</sub>	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
8-Hour Ozone	attainment
CO	attainment
Lead	attainment

- (a) On August 7, 2006, a temporary emergency rule took effect which revoked the one-hour ozone standard in Indiana. The Indiana Air Pollution Control Board has approved a permanent rule revision to incorporate these changes into 326 IAC 1-4-1. The permanent revision to 326 IAC 1-4-1 will take effect prior to the expiration of the emergency rule. Therefore, only the 8-hour ozone standard is considered in this operating permit

Volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. Jefferson County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability - Entire Source section of this document.

- (b) U.S.EPA in Federal Register Notice 70 FR 943 dated January 5, 2005 has designated Jefferson County as nonattainment for PM<sub>2.5</sub>. On March 7, 2005 the Indiana Attorney General's Office on behalf of IDEM filed a lawsuit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for violation of the Clean Air Act, the OAQ is following the U.S. EPA's guidance to regulate PM<sub>10</sub> emissions as a surrogate for PM<sub>2.5</sub> emissions pursuant to the Nonattainment New Source Review requirements. See the State Rule Applicability for the source section.
- (c) Jefferson County has been classified as attainment or unclassifiable in Indiana for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability - Entire Source section of this document.
- (d) Fugitive Emissions  
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 or 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### Source Status

Existing Source PSD, (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	12.7
PM <sub>10</sub>	11.1
SO <sub>2</sub>	0.151
VOC	1.38
CO	21.1
NO <sub>x</sub>	25.1
Single HAP (Fluorine)	0.802

Pollutant	Emissions (tons/yr)
Combination HAPs	1.39

- (a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of two-hundred fifty (250) tons per year or greater, no nonattainment regulated pollutant is emitted at a rate of one-hundred (100) tons per year or greater and it is not in one of the twenty-eight (28) listed source categories.
- (b) Emissions were based on the Technical Support Document for NOC 077-21943-00019 and the application for an MSOP renewal 077-19827-00019.

### Part 70 Permit Determination

#### 326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit MSOP 077-19827-00019, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) criteria pollutant is less than one-hundred (100) tons per year,
- (b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and
- (c) the combination of HAPs is less than twenty-five (25) tons per year.

This status is based on all the air approvals issued to the source.

### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.
- (b) The provisions of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63.1500, Subpart RRR, are not included in this MSOP renewal because it is located at an area source of HAPs, and does not include the operation of a thermal chip dryer, a scrap dryer/delacquering kiln/decoating kiln, a sweat furnace, or a group 1 furnace emission unit processing charge other than clean charge.
- (c) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 20 and 40 CFR Part 61, 63) included in the permit for this source.

### State Rule Applicability – Entire Source

#### 326 IAC 2-1.1-5 Nonattainment New Source Review

Jefferson County has been designated as non-attainment for PM<sub>2.5</sub> in 70 FR 943 dated January 5, 2005. According to the April 5, 2005 EPA memo titled "Implementation of New Source Review Requirements in PM<sub>2.5</sub> Nonattainment Areas" authored by Steve Page, Director of OAQPS, until EPA promulgates the PM<sub>2.5</sub> major NSR regulations, states should assume that a major stationary source's PM<sub>10</sub> emissions represent PM<sub>2.5</sub> emissions. IDEM will use the PM<sub>10</sub> nonattainment major NSR program as a surrogate to address the requirements of nonattainment major NSR for the PM<sub>2.5</sub> NAAQS. A major source in a nonattainment area is a source that emits or has the potential to emit one hundred (100) tons per year of any regulated pollutant. This source has a potential to emit of PM<sub>10</sub> below one hundred (100) tons per year. Therefore, assuming that PM<sub>10</sub>

emissions represent PM<sub>2.5</sub> emissions, 326 IAC 2-3 does not apply.

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

The unrestricted potential emissions of each attainment criteria pollutant are less than two-hundred fifty (250) tons per year. Therefore, this source, which is not one of the twenty-eight (28) listed source categories, is a minor source pursuant to 326 IAC 2-2, PSD.

#### 326 IAC 2-4.1-1 (New source toxics control)

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

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

This source is not located in Lake or Porter County and does not require a Part 70 Operating Permit. Therefore, the requirements of 326 IAC 2-6 do 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 the permit:

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

#### **State Rule Applicability – Individual Facilities**

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

- (a) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the shot blasting units:
  - (1) B1 shall not exceed 0.96 pounds per hour when operating at a process weight of 0.115 tons per hour.
  - (2) B4 shall not exceed 0.69 pounds per hour when operating at a process weight of 0.07 tons per hour.
  - (3) B5 shall not exceed 0.55 pounds per hour when operating at a process weight of 0.05 tons per hour.
  - (4) B6 shall not exceed 1.2 pounds per hour when operating at a process weight of 0.16 tons per hour.
  - (5) B7 shall not exceed 1.4 pounds per hour when operating at a process weight of 0.201 tons per hour.

- (6) B8 shall not exceed 3.19 pounds per hour when operating at a process weight of 0.688 tons per hour.

The baghouses/dust collectors and wet scrubbers shall be in operation at all times the shotblasting units, identified as B1 and B4 – B8, are in operation, in order to comply with these limits. The potential to emit particulate after controls from each shot blasting unit, shown on pages 1 through 6 of 14 of Appendix A, is less than its respective limit. Therefore, the shotblasting units can comply with this rule.

- (b) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the melting furnaces:

- (1) P1 shall not exceed 3.38 pounds per hour when operating at a process weight of 0.75 tons per hour.
- (2) P2 shall not exceed 3.38 pounds per hour when operating at a process weight of 0.75 tons per hour.
- (3) P3 shall not exceed 3.38 pounds per hour when operating at a process weight of 0.75 tons per hour.
- (4) P5 shall not exceed 1.51 pounds per hour when operating at a process weight of 0.225 tons per hour.
- (5) P6 shall not exceed 1.51 pounds per hour when operating at a process weight of 0.225 tons per hour.
- (6) P7 shall not exceed 3.07 pounds per hour when operating at a process weight of 0.65 tons per hour.
- (7) P8 shall not exceed 3.07 pounds per hour when operating at a process weight of 0.65 tons per hour.
- (8) P9 shall not exceed 4.10 pounds per hour when operating at a process weight of 1 ton per hour.
- (9) P10 shall not exceed 3.38 pounds per hour when operating at a process weight of 0.75 tons per hour.
- (10) P11 shall not exceed 2.91 pounds per hour when operating at a process weight of 0.60 tons per hour.

The unrestricted potential from each reverberatory melt furnace is less than its respective limit, as shown on page 7 of 14. Therefore, the reverberatory melt furnaces can comply with this rule.

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

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

- (c) The potential emissions from the welding/cutting processes are less than 0.551 pounds per hour. Therefore, pursuant to 326 IAC 6-3-1(b)(14), the welding/cutting processes are exempt from the requirements of 326 IAC 6-3.

## Testing Requirements

The following testing requirements are proposed for the natural gas fired reverberatory melt furnaces, identified as P1 – P3 and P5 – P11:

In order to show compliance with of 326 IAC 2-6.1 (MSOP) and to verify the use of alternative emission factors, the source must perform PM and PM<sub>10</sub> performance testing for the natural gas fired reverberatory melt furnaces. PM<sub>10</sub> includes filterable and condensable PM<sub>10</sub>. The natural gas fired reverberatory furnaces to be tested shall be chosen from like units. This grouping is based upon equal capacities. Therefore, any combination of reverberatory melt furnaces from the pairing of units P1 – P3 or P10, with P5 or P6, with P7 or P8, with P9 and P11, shall be tested.

## Compliance Requirements

Permits issued under 326 IAC 2-6.1 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-6.1-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

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

These monitoring conditions are required for the shotblasting units, identified as B1, and B4 – B8, in order to ensure that the baghouses/dust collectors/wet scrubbers are operating properly at all times. The baghouses/dust collectors must operate properly to in order for the shot blasting units to comply with 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) and 326 IAC 5-1, (Opacity Limitations). The following compliance monitoring conditions are applicable:

- (a) Visible emission notations of the shotblasting stacks exhaust shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.
- (b) The Permittee shall record the pressure drop across the baghouses/dust collectors used in conjunction with the shot blasting units at least once per day when the shot blasting units are in operation and venting to the atmosphere. When for any one reading, the

pressure drop across the baghouse is outside the normal range of 4.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit. The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

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

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

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

These monitoring conditions are required for the reverberatory melt furnaces, identified as P1 – P3, and P5 – P11, in order to comply with 326 IAC 5-1 (Opacity Limitations). The following compliance monitoring conditions are applicable:

- (d) Visible emission notations of the reverberatory melt furnaces stack exhaust (P1 – P3 and P7 – P11) shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

## Conclusion

The operation of an aluminum automotive parts manufacturing source shall be subject to the conditions of the **Minor Source Operating Permit 077-19827-00019**.

## Indiana Department of Environmental Management Office of Air Quality

### Addendum to the Technical Support Document for a Minor Source Operating Permit

<b>Source Name:</b>	<b>Madison Precision Products, Inc.</b>
<b>Source Location:</b>	<b>94 East 400 North, Madison, Indiana 47250</b>
<b>County:</b>	<b>Jefferson</b>
<b>Operation Permit No.:</b>	<b>MSOP 077-19827-00019</b>
<b>SIC Code:</b>	<b>3363</b>
<b>Permit Reviewer:</b>	<b>Brian J. Pedersen/MES</b>

On October 12, 2006, the Office of Air Quality (OAQ) had a notice published in the Madison Courier, Madison, Indiana, stating that Madison Precision Products, Inc. had applied for an operating permit to continue to operate a stationary aluminum automotive parts manufacturing source with baghouses, a wet scrubber and a cartridge filter for dust control. The notice also stated that OAQ proposed to issue a permit for this installation 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.

On November 10, 2006, Mike Wertz of Heritage Environmental Services, LLC submitted comments on the proposed operating permit. The summary of the comments and corresponding responses are as follows: The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded**.

#### Comment 1:

Please add "when venting to the atmosphere" to Condition D.1.6(a).

#### Response 1:

IDEM, OAQ agrees that since there are no stacks associated with the abrasive blasting operations and since compliance monitoring is warranted, visible emission notations must be done in the event of venting to the atmosphere. However, when visible emission notations are not performed due to emissions being vented inside the building or for any other reason, the Permittee shall keep a record of the reason the visible emission notations were not taken. Therefore, the phrase "when venting to the atmosphere" shall not be added to Condition D.1.6(a) and the term "stacks", has been deleted from Condition D.1.3(a). Also, Condition D.1.6(b) in Record Keeping and Condition D.1.4 Baghouse/Dust Collector Parametric Monitoring, pressure drop readings shall be required once per day even when not venting to the atmosphere. This is to demonstrate compliance with 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) and 326 IAC 5-1 (Opacity Limitations). Therefore, the phrase "when venting to the atmosphere" has been deleted from Condition D.1.6(b) and Condition D.1.4. IDEM, OAQ has made the following changes:

#### D.1.3 Visible Emissions Notations

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- (a) Visible emission notations of the shotblasting ~~stacks~~ exhaust shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

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

#### D.1.4 Baghouse/Dust Collector Parametric Monitoring

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- (a) The Permittee shall record the pressure drop across the baghouses/dust collectors used in conjunction with the shot blasting units at least once per day when the shot blasting units are in operation ~~and venting to the atmosphere~~. When for any one reading, the pressure drop across the baghouse is outside the normal range of 4.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

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

#### D.1.6 Record Keeping Requirements

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- (a) To document compliance with Condition D.1.3, the Permittee shall maintain records of visible emission notations of the shot blasting ~~stack~~ exhaust once per day, **or when the visible emissions notations were not taken and the reason for it.**
- (b) To document compliance with Condition D.1.4, the Permittee shall maintain records once per day of the pressure drop ~~during normal operation when venting to the atmosphere~~.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### Comment 2:

Madison Precision Products, Inc. requests to have the grouping of the melt furnaces pertaining to testing requirements be based on similar designs as opposed to the process weight rate of aluminum. Please combine the furnaces into the following three (3) groups of "like" units in Condition D.2.3:

1. P1, P2, P3, P7, P8, P9, P10
2. P5, P6
3. P11

The furnaces listed above in Group 1 (P1, P2, P3, P7, P8, P9, and P10) all operate with the same process and the same metals (HD2BS Aluminum ingot virgin stock with return runners, biscuits, and trimmings). The furnaces in Group 2 (P5 and P6) both operate with the same process and the same metals (ADC-6 Japan metal ingot virgin stock with return runners, biscuits, and trimmings). The furnace in Group 3 (P11) is designed for high efficiency with all of the metals added to the process through the top of the furnace while venting at a flow rate of 20% of all the other unit furnaces. This furnace (P11) melts HD2BS Aluminum ingot virgin stock with return runners, biscuits, and trimmings.

#### Response 2:

IDEM, OAQ agrees that the grouping of the melt furnaces in regard to testing can be grouped based on similar designs. Therefore IDEM, OAQ has made the following changes to Condition D.2.3:

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

---

Within 180 days of permit issuance, in order to show compliance with of 326 IAC 2-6.1 (MSOP) and to verify the use of alternative emission factors, the source must perform PM and PM<sub>10</sub> performance testing for the natural gas fired reverberatory melt furnaces, identified as P1 – P3 and P5 – P11, utilizing methods as approved by the Commissioner. **The pairing of Any two (2) melt furnaces from Group 1 (P1, P2, P3, P7, P8, P9, and P10) with one (1) melt furnace from Group 2 (P5 and P6) along with the one (1) melt furnace, identified as P11, in Group 3, units P1 – P3 or P10, with P5 or P6, with P7 or P8, with P9 and P11, shall be tested.** PM<sub>10</sub> includes filterable and condensable PM<sub>10</sub>.

#### Comment 3:

The pneumatic shot blasting unit B5 was not designed or equipped with a pressure gauge. The dust collector for B5 is a small shaker-type filter. B5 is used infrequently in the plant's maintenance shop only. It is not used in production. Therefore, it is requested that the permit does not require pressure drop readings for B5.

#### Response 3:

IDEM, OAQ agrees that a maintenance booth should not be regulated or included in this permit application because based upon the description given it is a trivial activity pursuant to 326 IAC 2-7-1(40)(E). With the removal of the maintenance pneumatic shot blaster the potential to emit of PM/PM<sub>10</sub> has changed. Page 1 of Appendix B is a revised summary of the potential to emit of the source. As a result of the removal of the maintenance pneumatic shot blaster from the permit IDEM, OAQ has made the following changes:

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

---

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

- (a) One (1) mechanical shotblasting unit, identified as B1, operation began in May 1989, using a cartridge filter for particulate control, exhausting inside the building, with a maximum blast rate of 230 pounds per hour of #50 steel grit.
- (b) One (1) mechanical shotblasting unit, identified as B4, operation began in July 1994, using a baghouse for particulate control, exhausting inside the building, with a maximum blast rate of 140 pounds per hour of #40 zinc cut wire.
- ~~(c) One (1) pneumatic shotblasting unit, identified as B5, operation began in February 1994, using a baghouse for particulate control, exhausting inside the building, with a maximum blast rate of 100 pounds per hour of glass beads.~~
- ~~(c)(d)~~ One (1) mechanical shotblasting unit, identified as B6, operation began in 1996, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 320 pounds per hour of carbon steel cut wire.
- ~~(d)(e)~~ One (1) mechanical shotblasting unit, identified as B7, operation began in 1997, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 405 pounds per hour of #50 steel shot.
- ~~(e)(f)~~ One (1) mechanical shotblasting unit, identified as B-8, operation began in 1997, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 1,375 pounds per hour of carbon steel cut wire.

- (f)(g) Three (3) natural gas fired reverberatory melt furnaces, identified as P1 – P3, installed by 1993, melting only clean charge, with maximum heat input capacities of 2.53, 2.53, and 3.0 million British thermal units per hour, exhausting to stacks P1, P2, and P3, respectively, and with a maximum throughput capacity of 1,500 pounds per hour of aluminum ingots, each.
- (g)(h) Three (3) natural gas fired reverberatory melt furnaces, identified as P5 – P7, installed by 1993, melting only clean charge, with maximum heat input capacities of 0.80, 0.80, and 2.8 million British thermal units per hour, respectively, exhausting to stacks P5, P6, and P7, and with a maximum throughput capacity of 450, 450, and 1,300 pounds per hour of aluminum ingots, respectively.
- (h)(i) Two (2) natural gas fired reverberatory melt furnaces, identified as P8 and P9, installed in 1996, melting only clean charge, with a maximum heat input capacity of 7.3 million British thermal units per hour, total, exhausting to stacks P8 and P9, and with a maximum throughput capacity of 3,300 pounds per hour of aluminum ingots, total.
- (i)(j) One (1) natural gas fired reverberatory melt furnace, identified as P10, installed in 1998, melting only clean charge, with a maximum heat input capacity of 2.3 million British thermal units per hour, exhausting to stack P10, and with a maximum throughput capacity of 1,500 pounds of aluminum ingots per hour.
- (j)(k) One (1) natural gas fired reverberatory melt furnace, identified as P11, installed in 2006, melting only clean charge, with a maximum heat input capacity of 1.7 million British thermal units per hour, exhausting to stack P11, and with a maximum throughput capacity of 1,200 pounds of aluminum ingots per hour.
- (k)(l) Thirty-one (31) natural gas-fired heaters, identified as H1 – H33, with a total maximum capacity of 33.38 million British thermal units per hour.
- (l)(m) One (1) stick welding station, with a maximum electrode usage of 200 pounds per year.
- (m)(n) One (1) TIG welding station, with a maximum metal consumption of 20 pounds per year.
- (n)(o) One (1) oxyacetylene flame cutting operation, with a maximum of 36 inches of metal cut per week.
- (o)(p) Fifteen (15) electric holding furnaces, identified as F-1 – F-15, with negligible emissions. All emissions are attributed to the melting of the aluminum ingots.

**SECTION D.1**

**EMISSIONS UNIT OPERATION CONDITIONS**

**Emissions Unit Description: Shot Blasting**

- (a) One (1) mechanical shotblasting unit, identified as B1, operation began in May 1989, using a cartridge filter for particulate control, exhausting inside the building, with a maximum blast rate of 230 pounds per hour of #50 steel grit.
- (b) One (1) mechanical shotblasting unit, identified as B4, operation began in July 1994, using a baghouse for particulate control, exhausting inside the building, with a maximum blast rate of 140 pounds per hour of #40 zinc cut wire.
- (c) One (1) pneumatic shotblasting unit, identified as B5, operation began in February 1994, using a baghouse for particulate control, exhausting inside the building, with a maximum blast rate of 100 pounds per hour of glass beads.

- ~~(c)~~(d) One (1) mechanical shotblasting unit, identified as B6, operation began in 1996, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 320 pounds per hour of carbon steel cut wire.
- ~~(d)~~(e) One (1) mechanical shotblasting unit, identified as B7, operation began in 1997, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 405 pounds per hour of #50 steel shot.
- ~~(e)~~(f) One (1) mechanical shotblasting unit, identified as B-8, operation began in 1997, using a wet venturi scrubber for particulate control, exhausting inside the building, with a maximum blast rate of 1,375 pounds per hour of carbon steel cut wire.

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

#### D.1.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the shotblasting units:

- (1) B1 shall not exceed 0.96 pounds per hour when operating at a process weight of 0.115 tons per hour.
- (2) B4 shall not exceed 0.69 pounds per hour when operating at a process weight of 0.07 tons per hour.
- ~~(3) B5 shall not exceed 0.55 pounds per hour when operating at a process weight of 0.05 tons per hour.~~
- ~~(3)~~(4) B6 shall not exceed 1.2 pounds per hour when operating at a process weight of 0.16 tons per hour.
- ~~(4)~~(5) B7 shall not exceed 1.4 pounds per hour when operating at a process weight of 0.201 tons per hour.
- ~~(5)~~(6) B8 shall not exceed 3.19 pounds per hour when operating at a process weight of 0.688 tons per hour.

The pounds per hour limitations were 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:

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

## SECTION D.2

## FACILITY OPERATION CONDITIONS

### Emissions Unit Description: Natural gas fired melt furnaces

- ~~(f)~~(g) Three (3) natural gas fired reverberatory melt furnaces, identified as P1 – P3, installed by 1993, melting only clean charge, with maximum heat input capacities of 2.53, 2.53, and 3.0 million British thermal units per hour, exhausting to stacks P1, P2, and P3, respectively, and with a maximum throughput capacity of 1,500 pounds per hour of aluminum ingots, each.

- (g)(h)** Three (3) natural gas fired reverberatory melt furnaces, identified as P5 – P7, installed by 1993, melting only clean charge, with maximum heat input capacities of 0.80, 0.80, and 2.8 million British thermal units per hour, respectively, exhausting to stacks P5, P6, and P7, and with a maximum throughput capacity of 450, 450, and 1,300 pounds per hour of aluminum ingots, respectively.
- (h)(+)** Two (2) natural gas fired reverberatory melt furnaces, identified as P8 and P9, installed in 1996, melting only clean charge, with a maximum heat input capacity of 7.3 million British thermal units per hour, total, exhausting to stacks P8 and P9, and with a maximum throughput capacity of 3,300 pounds per hour of aluminum ingots, total.
- (i)(+)** One (1) natural gas fired reverberatory melt furnace, identified as P10, installed in 1998, melting only clean charge, with a maximum heat input capacity of 2.3 million British thermal units per hour, exhausting to stack P10, and with a maximum throughput capacity of 1,500 pounds of aluminum ingots per hour.
- (j)(+)** One (1) natural gas fired reverberatory melt furnace, identified as P11, installed in 2006, melting only clean charge, with a maximum heat input capacity of 1.7 million British thermal units per hour, exhausting to stack P11, and with a maximum throughput capacity of 1,200 pounds of aluminum ingots per hour.
- (k)(+)** Thirty-one (31) natural gas-fired heaters, identified as H1 – H33, with a total maximum capacity of 33.38 million British thermal units per hour.
- (l)(+)** One (1) stick welding station, with a maximum electrode usage of 200 pounds per year.
- (m)(+)** One (1) TIG welding station, with a maximum metal consumption of 20 pounds per year.
- (n)(+)** One (1) oxyacetylene flame cutting operation, with a maximum of 36 inches of metal cut per week.
- (o)(+)** Fifteen (15) electric holding furnaces, identified as F-1 – F-15, with negligible emissions. All emissions are attributed to the melting of the aluminum ingots.

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

**Potential to Emit of the Source Before Controls**

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

Pollutant	Potential to Emit (tons/yr)
PM	<del>73.4</del> 77.8
PM <sub>10</sub>	<del>64.5</del> 68.9
SO <sub>2</sub>	0.151

<b>Pollutant</b>	<b>Potential to Emit (tons/yr)</b>
VOC	1.38
CO	21.1
NO <sub>x</sub>	25.1

**Source Status**

Existing Source PSD, (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/or as otherwise limited):

<b>Pollutant</b>	<b>Emissions (tons/yr)</b>
PM	<b>12.6</b> <del>12.7</del>
PM <sub>10</sub>	11.1
SO <sub>2</sub>	0.151
VOC	1.38
CO	21.1
NO <sub>x</sub>	25.1
Single HAP (Fluorine)	0.802
Combination HAPs	1.39

**Appendix A: Emission Calculations  
Abrasive Blasting - Confined**

**Company Name: Madison Precision Products, Inc.  
Address City IN Zip: 94 East 400 North, Madison, IN 47250  
Permit Number: M 077-19827  
Plt ID: 077-00019  
Reviewer: Brian Pedersen  
Application Date: November 12, 2004**

**Table 1 - Emission Factors for Abrasives**

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

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

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

**Calculations for B1**

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

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

FR = Flow Rate (lb/hr) =

w = fraction of time of wet blasting =

N = number of nozzles =

0.010

230

0 %

1

<b>Uncontrolled PM Emissions =</b>	<b>2.30 lb/hr</b>
	<b>10.07 ton/yr</b>
<b>Controlled PM Emissions =</b>	<b>0.023 lb/hr</b>
	<b>0.101 ton/yr</b>
<b>Uncontrolled PM10 Emissions =</b>	<b>1.61 lb/hr</b>
	<b>7.05 ton/yr</b>
<b>Controlled PM10 Emissions =</b>	<b>0.016 lb/hr</b>
	<b>0.071 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)<sup>2</sup> x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations

Abrasive Blasting - Confined

Company Name: Madison Precision Products, Inc.  
 Address City IN Zip: 94 East 400 North, Madison, IN 47250  
 Permit Number: M 077-19827  
 Plt ID: 077-00019  
 Reviewer: Brian Pedersen  
 Application Date: November 12, 2004

Table 1 - Emission Factors for Abrasives

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

Table 2 - Density of Abrasives (lb/ft3)

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

Calculations for B4

Uncontrolled Emissions (E, lb/hr)

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

0.010
140
0
1

Uncontrolled PM Emissions =	1.40 lb/hr
	6.13 ton/yr
Controlled PM Emissions =	0.014 lb/hr
	0.061 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations  
Abrasive Blasting - Confined**

**Company Name: Madison Precision Products, Inc.**  
**Address City IN Zip: 94 East 400 North, Madison, IN 47250**  
**Permit Number: M 077-19827**  
**Plt ID: 077-00019**  
**Reviewer: Brian Pedersen**  
**Application Date: November 12, 2004**

**Table 1 - Emission Factors for Abrasives**

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

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

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

**Calculations for B5**

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

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

FR = Flow Rate (lb/hr) =

w = fraction of time of wet blasting =

N = number of nozzles =

0.010
100
0 %
1

<b>Uncontrolled PM Emissions =</b>	<b>1.00 lb/hr</b>
	<b>4.38 ton/yr</b>
<b>Controlled PM Emissions =</b>	<b>0.010 lb/hr</b>
	<b>0.044 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)<sup>2</sup> x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Abrasive Blasting - Confined

Company Name: Madison Precision Products, Inc.  
 Address City IN Zip: 94 East 400 North, Madison, IN 47250  
 Permit Number: M 077-19827  
 Plt ID: 077-00019  
 Reviewer: Brian Pedersen  
 Application Date: November 12, 2004

Table 1 - Emission Factors for Abrasives

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

Table 2 - Density of Abrasives (lb/ft3)

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

Calculations for B6

Uncontrolled Emissions (E, lb/hr)

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

0.010
320
0 %
1

Uncontrolled PM Emissions =	3.20 lb/hr
	14.02 ton/yr
Controlled PM Emissions =	0.032 lb/hr
	0.140 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)<sup>2</sup> x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations  
Abrasive Blasting - Confined**

**Company Name:** Madison Precision Products, Inc.  
**Address City IN Zip:** 94 East 400 North, Madison, IN 47250  
**Permit Number:** M 077-19827  
**Plt ID:** 077-00019  
**Reviewer:** Brian Pedersen  
**Application Date:** November 12, 2004

**Table 1 - Emission Factors for Abrasives**

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

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

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

**Calculations for B7**

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

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

0.004
405
0
1

<b>Uncontrolled PM Emissions =</b>	<b>1.62 lb/hr</b>
	<b>7.10 ton/yr</b>
<b>Controlled PM Emissions =</b>	<b>0.016 lb/hr</b>
	<b>0.071 ton/yr</b>
<b>Uncontrolled PM10 Emissions =</b>	<b>1.39 lb/hr</b>
	<b>6.10 ton/yr</b>
<b>Controlled PM10 Emissions =</b>	<b>0.014 lb/hr</b>
	<b>0.061 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)  
 Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs  
 Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)  
 E = EF x FR x (1-w/200) x N  
 w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations

Abrasive Blasting - Confined

Company Name: Madison Precision Products, Inc.  
 Address City IN Zip: 94 East 400 North, Madison, IN 47250  
 Permit Number: M 077-19827  
 Plt ID: 077-00019  
 Reviewer: Brian Pedersen  
 Application Date: November 12, 2004

Table 1 - Emission Factors for Abrasives

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

Table 2 - Density of Abrasives (lb/ft3)

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

Calculations for B8

Uncontrolled Emissions (E, lb/hr)

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

0.004
1375
0 %
1

Uncontrolled PM Emissions =	5.50 lb/hr
	24.1 ton/yr
Controlled PM Emissions =	0.055 lb/hr
	0.241 ton/yr
Uncontrolled PM10 Emissions =	4.73 lb/hr
	20.72 ton/yr
Controlled PM10 Emissions =	0.047 lb/hr
	0.207 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)  
 Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs  
 Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)  
 E = EF x FR x (1-w/200) x N  
 w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Secondary Metal Production**

**Aluminum**

**Company Name: Madison Precision Products, Inc.**  
**Address City IN Zip: 94 East 400 North, Madison, IN 47250**  
**Permit Number: M 077-19827**  
**Plt ID: 077-00019**  
**Reviewer: Brian Pedersen**  
**Application Date: November 12, 2004**

SCC# 3-04-001-03  
Smelting Furnace/Reverberatory

TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR			
Aluminum	12,700	2000	6.35			
	<b>PM *</b> lbs/ton Produced	<b>PM10 *</b> lbs/ton Produced	<b>SOx</b> lbs/ton Produced	<b>NOx</b> lbs/ton Produced	<b>VOC *</b> lbs/ton Produced	<b>CO</b> lbs/tons Produced
	0.19	0.19	0	0	0	--
Potential Emissions lbs/hr	1.21	1.21	0.0	0.0	0.0	--
Potential Emissions lbs/day	29.0	29.0	0.0	0.0	0.0	--
Potential Emissions tons/year	5.28	5.28	0.0	0.0	0.0	--

SCC# 3-04-001-04  
Fluxing/Chlorine

TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR			
Flux	2.86	2000	0.00143			
	<b>PM *</b> lbs/ton Chlorine	<b>PM10 *</b> lbs/ton Chlorine	<b>SOx</b> lbs/ton Chlorine	<b>NOx</b> lbs/ton Chlorine	<b>VOC</b> lbs/ton Chlorine	<b>CO</b> lbs/tons Chlorine
	1000	532	0.00	0.00	0.00	--
Potential Emissions lbs/hr	1.43	0.761	0.0	0.0	0.0	--
Potential Emissions lbs/day	34.3	18.3	0.0	0.0	0.0	--
Potential Emissions tons/year	6.26	3.33	0.0	0.0	0.0	0

\* Note: Emission factor is from FIRE version 6.01.

Emission factors which are not denoted by a "\*" are from older versions of FIRE and were not included in FIRE version 6.01 for various reasons.

**Appendix A: Emission Calculations  
HAP Emission Calculations from Fluxing**

**Company Name:** Madison Precision Products, Inc.  
**Address City IN Zip:** 94 East 400 North, Madison, IN 47250  
**Permit Number:** M 077-19827  
**Plt ID:** 077-00019  
**Permit Reviewer:** Brian Pedersen  
**Application Date:** November 12, 2004

Furnace	Throughput of Flux (lbs/hour)	HAP	Weight Percent HAP (%)	HAP Emissions (tons/yr)
P1	0.625	Fluorine	6.65%	0.182
P1	0.041	Chlorine	62.93%	0.113
P2	0.237	Fluorine	6.65%	0.069
P3	0.237	Fluorine	6.65%	0.069
P5	0.060	Fluorine	5.35%	0.014
P6	0.060	Fluorine	5.35%	0.014
P7	0.119	Fluorine	6.65%	0.035
P8 and P9	0.740	Fluorine	6.65%	0.216
P10	0.320	Fluorine	6.65%	0.093
P11	0.380	Fluorine	6.65%	0.111
<b>Total</b>				<b>0.915</b>

Total State Potential Emissions

**METHODOLOGY**

HAPS emission rate (tons/yr) = Throughput of Flux \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs

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

**Company Name:** Madison Precision Products, Inc.  
**Address City IN Zip:** 94 East 400 North, Madison, IN 47250  
**Permit Number:** M 077-19827  
**Pit ID:** 077-00019  
**Reviewer:** Brian Pedersen  
**Application Date:** November 12, 2004

Unit ID	Heat Input Capacity (MMBtu/hr)
P1	2.53
P2	2.53
P3	3.00
P5	0.800
P6	0.800
P7	2.80
P8 and P9	7.30
P10	2.30
P11	1.90
<b>Total</b>	<b>24.0</b>

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

24.0

210

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100	5.50	84.0
				**see below		
Potential Emission in tons/yr	0.199	0.798	0.063	10.5	0.577	8.815

\*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

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

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

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

See page 10 for HAPs emissions calculations.

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

**Company Name:** Madison Precision Products, Inc.  
**Address City IN Zip:** 94 East 400 North, Madison, IN 47250  
**Permit Number:** M 077-19827  
**Pit ID:** 077-00019  
**Reviewer:** Brian Pedersen  
**Application Date:** November 12, 2004

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 0.00210	Dichlorobenzene 0.00120	Formaldehyde 0.07500	Hexane 1.80000	Toluene 0.00340
Potential Emission in tons/yr	0.000220	0.000126	0.007871	0.188901	0.000357

HAPs - Metals						
Emission Factor in lb/MMcf	Lead 0.0005	Cadmium 0.0011	Chromium 0.0014	Manganese 0.0004	Nickel 0.0021	<b>Total</b>
Potential Emission in tons/yr	0.00005	0.00012	0.00015	0.00004	0.00022	<b>0.198</b>

Methodology is the same as page 9.

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

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

**Company Name: Madison Precision Products, Inc.**  
**Address City IN Zip: 94 East 400 North, Madison, IN 47250**  
**Permit Number: M 077-19827**  
**Plt ID: 077-00019**  
**Reviewer: Brian Pedersen**  
**Application Date: November 12, 2004**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

33.4

292

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100 **see below	5.50	84.0
Potential Emission in tons/yr	0.278	1.111	0.088	14.620	0.804	12.281

\*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

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

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

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

See page 12 for HAPs emissions calculations.

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

**Company Name: Madison Precision Products, Inc.**  
**Address City IN Zip: 94 East 400 North, Madison, IN 47250**  
**Permit Number: M 077-19827**  
**Plt ID: 077-00019**  
**Reviewer: Brian Pedersen**  
**Application Date: November 12, 2004**

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 0.00210	Dichlorobenzene 0.00120	Formaldehyde 0.07500	Hexane 1.80000	Toluene 0.00340
Potential Emission in tons/yr	0.000307	0.000175	0.010965	0.263168	0.000497

HAPs - Metals						
Emission Factor in lb/MMcf	Lead 0.0005	Cadmium 0.0011	Chromium 0.0014	Manganese 0.0004	Nickel 0.0021	<b>Total</b>
Potential Emission in tons/yr	0.00007	0.00016	0.00020	0.00006	0.00031	<b>0.276</b>

Methodology is the same as page 11.

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

**Appendix A: Emissions Calculations  
Welding and Thermal Cutting**

**Company Name:** Madison Precision Products, Inc.  
**Address City IN Zip:** 94 East 400 North, Madison, IN 47250  
**Permit Number:** M 077-19827  
**Plt ID:** 077-00019  
**Reviewer:** Brian Pedersen  
**Application Date:** November 12, 2004

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	
<b>WELDING</b>												
Submerged Arc	0	0		0.036	0.011			0.000	0.000	0.000	0	0.000
Metal Inert Gas (MIG)(carbon steel)	0	0		0.0055	0.0005			0.000	0.000	0.000	0	0.000
Stick (E7018 electrode)	1	0.022		0.0211	0.0009			0.0005	0.000	0.000	0	0.000
Tungsten Inert Gas (TIG)(carbon steel)	1	0.002		0.0055	0.0005			0.0000	0.000	0.000	0	0.000
Oxyacetylene(carbon steel)	0	0		0.0055	0.0005			0.000	0.000	0.000	0	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	1	1	0.004	0.1622	0.0005	0.0001	0.0003	0.0000	0.000	0.000	0.000	0.000
Oxymethane	0	0	0	0.0815	0.0002		0.0002	0.0000	0.000	0.000	0.000	0.000
Plasma**	0	0	0	0.0039				0.0000	0.000	0.000	0.000	0.000
<b>EMISSION TOTALS</b>												
Potential Emissions lbs/hr								0.00	0.00	0.00	0.00	0.00
Potential Emissions lbs/day								0.01	0.00	0.00	0.00	0.00
Potential Emissions tons/year								0.002	0.00	0.00	0.00	0.00

**METHODOLOGY**

\*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 rather than 1 inch, and the maximum metal thickness is not used in calculating the emissions.

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  
Summary**

**Company Name: Madison Precision Products, Inc.**  
**Address City IN Zip: 94 East 400 North, Madison, IN 47250**  
**Permit Number: M 077-19827**  
**Plt ID: 077-00019**  
**Reviewer: Brian Pedersen**  
**Application Date: November 12, 2004**

**Summary of Emissions**

	<b>Uncontrolled Potential Emissions</b>							<b>Controlled Potential Emissions</b>						
	<b>PM</b> (tons/yr)	<b>PM-10</b> (tons/yr)	<b>SO2</b> (tons/yr)	<b>NOx</b> (tons/yr)	<b>VOC</b> (tons/yr)	<b>CO</b> (tons/yr)	<b>Total HAPs</b> (tons/yr)	<b>PM</b> (tons/yr)	<b>PM-10</b> (tons/yr)	<b>SO2</b> (tons/yr)	<b>NOx</b> (tons/yr)	<b>VOC</b> (tons/yr)	<b>CO</b> (tons/yr)	<b>Total HAPs</b> (tons/yr)
<b>Shotblasting</b>														
B1	10.07	7.05	0.00	0.00	0.00	0.00	0.00	0.101	0.071	0.00	0.00	0.00	0.00	0.00
B4	6.13	6.13	0.00	0.00	0.00	0.00	0.00	0.061	0.061	0.00	0.00	0.00	0.00	0.00
B5	4.38	4.38	0.00	0.00	0.00	0.00	0.00	0.044	0.044	0.00	0.00	0.00	0.00	0.00
B6	14.0	14.0	0.00	0.00	0.00	0.00	0.00	0.140	0.140	0.00	0.00	0.00	0.00	0.00
B7	7.10	6.10	0.00	0.00	0.00	0.00	0.00	0.071	0.061	0.00	0.00	0.00	0.00	0.00
B8	24.10	20.72	0.00	0.00	0.00	0.00	0.00	0.241	0.207	0.00	0.00	0.00	0.00	0.00
<b>Melting Furnaces</b>														
<b>Fluxing</b>	6.26	3.33	0.00	0.00	0.00	0.00	0.915	6.26	3.33	0.00	0.00	0.00	0.00	0.915
<b>Combustion from</b>														
<b>Furnaces</b>	0.199	0.798	0.063	10.5	0.577	8.82	0.198	0.199	0.798	0.063	10.5	0.577	8.82	0.198
<b>Space heaters</b>	0.278	1.11	0.088	14.62	0.80	12.28	0.276	0.278	1.11	0.088	14.62	0.80	12.28	0.276
<b>Welding</b>	0.002	0.002	0.00	0.00	0.00	0.00	0.00	0.002	0.002	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>77.8</b>	<b>68.9</b>	<b>0.151</b>	<b>25.1</b>	<b>1.38</b>	<b>21.1</b>	<b>1.39</b>	<b>12.7</b>	<b>11.1</b>	<b>0.151</b>	<b>25.1</b>	<b>1.38</b>	<b>21.1</b>	<b>1.39</b>

**Appendix B: Emissions Calculations  
Revised Summary**

**Company Name: Madison Precision Products, Inc.**  
**Address City IN Zip: 94 East 400 North, Madison, IN 47250**  
**Permit Number: M 077-19827**  
**Plt ID: 077-00019**  
**Reviewer: Brian Pedersen**  
**Application Date: November 12, 2004**

**Summary of Emissions**

	<b>Uncontrolled Potential Emissions</b>							<b>Controlled Potential Emissions</b>						
	<b>PM</b> (tons/yr)	<b>PM-10</b> (tons/yr)	<b>SO2</b> (tons/yr)	<b>NOx</b> (tons/yr)	<b>VOC</b> (tons/yr)	<b>CO</b> (tons/yr)	<b>Total HAPs</b> (tons/yr)	<b>PM</b> (tons/yr)	<b>PM-10</b> (tons/yr)	<b>SO2</b> (tons/yr)	<b>NOx</b> (tons/yr)	<b>VOC</b> (tons/yr)	<b>CO</b> (tons/yr)	<b>Total HAPs</b> (tons/yr)
<b>Shotblasting</b>														
B1	10.07	7.05	0.00	0.00	0.00	0.00	0.00	0.101	0.071	0.00	0.00	0.00	0.00	0.00
B4	6.13	6.13	0.00	0.00	0.00	0.00	0.00	0.061	0.061	0.00	0.00	0.00	0.00	0.00
B6	14.0	14.0	0.00	0.00	0.00	0.00	0.00	0.140	0.140	0.00	0.00	0.00	0.00	0.00
B7	7.10	6.10	0.00	0.00	0.00	0.00	0.00	0.071	0.061	0.00	0.00	0.00	0.00	0.00
B8	24.10	20.72	0.00	0.00	0.00	0.00	0.00	0.241	0.207	0.00	0.00	0.00	0.00	0.00
<b>Melting Furnaces</b>	5.28	5.28	0.00	0.00	0.00	0.00	0.00	5.28	5.28	0.00	0.00	0.00	0.00	0.00
<b>Fluxing</b>	6.26	3.33	0.00	0.00	0.00	0.00	0.915	6.26	3.33	0.00	0.00	0.00	0.00	0.915
<b>Combustion from</b>														
<b>Furnaces</b>	0.199	0.798	0.063	10.5	0.577	8.82	0.198	0.199	0.798	0.063	10.5	0.577	8.82	0.198
<b>Space heaters</b>	0.278	1.11	0.088	14.62	0.80	12.28	0.276	0.278	1.11	0.088	14.62	0.80	12.28	0.276
<b>Welding</b>	0.002	0.002	0.00	0.00	0.00	0.00	0.00	0.002	0.002	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>73.4</b>	<b>64.5</b>	<b>0.151</b>	<b>25.1</b>	<b>1.38</b>	<b>21.1</b>	<b>1.39</b>	<b>12.6</b>	<b>11.1</b>	<b>0.151</b>	<b>25.1</b>	<b>1.38</b>	<b>21.1</b>	<b>1.39</b>