**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
*We Protect Hoosiers and Our Environment.*

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

*Thomas W. Easterly*
**Commissioner**

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

TO: Interested Parties / Applicant

DATE: October 27, 2010

RE: PMG Indiana Corporation / 005-29599-00103

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

# Notice of Decision: Approval - Registration

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 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FN-REGIS.dot 1/2/08

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# REGISTRATION
# OFFICE OF AIR QUALITY

## PMG Indiana Corporation
## 1751 Arcadia Dr., Indiana 47201

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

| Registration No. 005-29599-00103 | |
|---|---|
| Issued by:<br><br>Iryn Calilung, Section Chief<br>Permits Branch<br>Office of Air Quality | Issuance Date:<br><br>October 27, 2010 |

## SECTION A SOURCE SUMMARY

This registration is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant 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 Registrant to obtain additional permits pursuant to 326 IAC 2.

### A.1 General Information

The Registrant owns and operates a stationary manufacturing automotive parts out of sintered powder for engines, transmissions and shock absorbers.

| | |
|---|---|
| Source Address: | PMG Corporation, Columbus, IN 47201 |
| General Source Phone Number: | 812-379-4606 |
| SIC Code: | 3714 |
| County Location: | Bartholomew |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Registration |

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

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

((a) Metal powder mixing room consisting of two (2) enclosed double cone mixers, identified as T-01, and T-02 for blending and mixing metal powder for sintering, constructed in 1989, with a maximum capacity of 8,000 lb/hr and 6,000 lb/hr respectively, using torrit dust collectors to control particulates, exhausting outside.

(b) Eighteen (18) compact presses for manufacturing automotive parts, constructed in 1989, consisting of conveyer system controlled by stationary and portable dust collectors, exhausting inside.

(c) Seventeen (17) sintering furnaces, consisting of fifteen (15) electric glow tubes and two (2) natural gas mixing room furnaces having a maximum heat input capacity of 0.75 MMBtu/hr, and thirty six (36) sintering flame curtains to burn off the endothermic gases and to shield the parts from oxidation, each sintering furnace having a maximum heat input capacity of 0.25 MMBtu/hr, constructed in 1989, and processing 824 lb/hr of parts each line, with emissions exhausting outside.

(d) Two (2) natural gas-fired carburizing ovens, constructed in 1989, identified as carburizer #1 and carburizer #2, maximum heat input capacity of 2.999 MMBtu/hr and 3.239 MMBtu/hr respectively, exhausting outside.

(e) One (1) natural gas-fired rinsing furnace from carburizing, constructed in 1989, maximum heat input capacity of 0.325 MMBtu/hr, exhausting outside.

(f) One (1) natural gas-fired draw furnace from carburizing, constructed in 1989, maximum heat input capacity of 1.0 MMBtu/hr, exhausting outside.

(g) One (1) natural gas-fired evaporator furnace from carburizing, constructed in 1989, maximum heat input capacity of 0.395 MMBtu/hr, exhausting outside.

(h) Three (3) natural gas-fired Lindberg furnaces, identified as Lindberg#1, Lindberg#2 and Lindberg #3, constructed in 1989, maximum heat input capacity of 0.526 MMBtu/hr each, exhausting outside.

(i) Nine (9) natural gas-fired Air Make-up units, constructed in 1989, maximum combined heat input capacity of 0.616 MMBtu/hr, exhausting outside.

(j) Ten (10) natural gas-fired Roof top units, constructed in 1989, maximum combined heat input capacity of 0.685 MMBtu/hr, exhausting outside.

(k) Two (2) natural gas-fired mixing room furnaces, constructed in 1989, maximum combined heat input capacity of 0.069 MMBtu/hr, exhausting outside.

## SECTION B GENERAL CONDITIONS

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

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

### B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration 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.

### B.3 Registration Revocation [326 IAC 2-1.1-9]

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

(a) Violation of any conditions of this registration.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.

(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 registration shall not require revocation of this registration.

(d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

### B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to Registration No. 005-29599-00103 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 registration.

### B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

(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 registration.

(b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

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

Indianapolis, IN 46204-2251

(c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

B.8 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this registration, the Registrant shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this registration or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

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

The Registrant shall implement the PMPs.

(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 Registrant to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.

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

**SECTION C SOURCE OPERATION CONDITIONS**

Entire Source

**Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]**

C.1 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 registration:

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

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

C.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant 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).

**SECTION D.1 OPERATION CONDITIONS**

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

(a) Metal powder mixing room consisting of two (2) enclosed double cone mixers, identified as T-01, and T-02 for blending and mixing metal powder for sintering, constructed in 1989, with a maximum capacity of 8,000 lb/hr and 6,000 lb/hr respectively, using torrit dust collectors to control particulates, exhausting outside.

(b) Eighteen (18) compact presses for manufacturing automotive parts, constructed in 1989, consisting of conveyer system controlled by stationary and portable dust collectors, exhausting inside.

(c) Seventeen (17) sintering furnaces, consisting of fifteen (15) electric glow tubes and two (2) natural gas mixing room furnaces having a maximum heat input capacity of 0.75 MMBtu/hr, and thirty six (36) sintering flame curtains to burn off the endothermic gases and to shield the parts from oxidation, each sintering furnace having a maximum heat input capacity of 0.25 MMBtu/hr, constructed in 1989, and processing 824 lb/hr of parts each line, with emissions exhausting outside.

(d) Two (2) natural gas-fired carburizing ovens, constructed in 1989, identified as carburizer #1 and carburizer #2, maximum heat input capacity of 2.999 MMBtu/hr and 3.239 MMBtu/hr respectively, exhausting outside.

(e) One (1) natural gas-fired rinsing furnace from carburizing, constructed in 1989, maximum heat input capacity of 0.325 MMBtu/hr, exhausting outside.

(f) One (1) natural gas-fired draw furnace from carburizing, constructed in 1989, maximum heat input capacity of 1.0 MMBtu/hr, exhausting outside.

(g) One (1) natural gas-fired evaporator furnace from carburizing, constructed in 1989, maximum heat input capacity of 0.395 MMBtu/hr, exhausting outside.

(h) Three (3) natural gas-fired Lindberg furnaces, identified as Lindberg#1, Lindberg#2 and Lindberg #3, constructed in 1989, maximum heat input capacity of 0.526 MMBtu/hr each, exhausting outside.

(i) Nine (9) natural gas-fired Air Make-up units, constructed in 1989, maximum combined heat input capacity of 0.616 MMBtu/hr, exhausting outside.

(j) Ten (10) natural gas-fired Roof top units, constructed in 1989, maximum combined heat input capacity of 0.685 MMBtu/hr, exhausting outside.

(k) Two (2) natural gas-fired mixing room furnaces, constructed in 1989, maximum combined heat input capacity of 0.069 MMBtu/hr, exhausting outside.

(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 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]**

D.1.1 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

(a) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the metal powder mixing and

blending for sintering (T-01) shall not exceed 10.37 pounds per hour when operating at a process weight rate of 4.0 tons per hour.

(b) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the metal powder mixing, and blending for sintering (T-02) shall not exceed 8.56 pounds per hour when operating at a process weight rate of 3.0 tons per hour.

(c) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the each of the compact presses shall not exceed 2.18 pounds per hour each when operating at a process weight rate of 0.389 tons per hour each.

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

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

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

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for this facility. Section B - Preventive Maintenance Plan contains the Registrant's obligation with regard to the preventive maintenance plan required by this condition.

**Compliance Determination Requirements**

D.1.3 Particulate Control

(a) In order to comply with Condition D.1.1, the torit dust collector and portable dust collectors for particulate control shall be in operation and control emissions from the woodworking facility at all times the woodworking facility is in operation.

(b) In the event that dust collector failure is observed in a multi-compartment dust collector, 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 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]**

D.1.4 Visible Emissions Notations

(a) Daily visible emission notations of the metal powder mixing and blending for sintering T-01 and T-02 stack exhaust shall be performed 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.

D.1.5 Parametric Monitoring

The Permittee shall record the pressure drop across the torit dust collector used in conjunction with the powder mixing and blending process, at least once per day when the powder mixing and blending process is in operation. When for any one reading, the pressure drop across the dust collector is outside the normal range established during the latest stack test, the Permittee shall take reasonable response. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.1.6 Broken or Failed dust collector Detection

(a) For a single compartment dust collector 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 C- Response to Excursions or Exceedances).

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

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

**Record Keeping and Reporting Requirement [326 IAC 2-5.1-2(f)(1)]**

D.1.7 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.4, the Permittee shall maintain daily records of the visible emission notations of the T-01 and T-02 stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of a visible emission notation, (i.e. the process did not operate that day).

(c) To document the compliance status with Condition D.1.5, the Permittee shall maintain daily records of the pressure drop across the dust collector controlling the T-01 and T-02. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (i.e. the process did not operate that day).

(d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

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

**REGISTRATION**
**ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

| | |
|---|---|
| **Company Name:** | PMG Indiana Corp. |
| **Address:** | 1751 Arcadia Dr. |
| **City:** | Columbus, Indiana 47201 |
| **Phone Number:** | 812-379-4606 |
| **Registration No.:** | 005-29599-00103 |

I hereby certify that PMG Indiana Corp.is :
- ☐ still in operation.
- ☐ no longer in operation.

I hereby certify that PMG Indiana Corp.is :
- ☐ in compliance with the requirements of Registration No. 005-29599-00103.
- ☐ not in compliance with the requirements of Registration No. 005-29599-00103.

| |
|---|
| **Authorized Individual (typed):** |
| **Title:** |
| **Signature:** |
| **Phone Number:** |
| **Date:** |

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

| |
|---|
| **Noncompliance:** |
| |
| |
| |
| |

# Indiana Department of Environmental Management
# Office of Air Quality

## Technical Support Document (TSD) for a Registration

### Source Description and Location

| | |
|---|---|
| **Source Name:** | **PMG Indiana Corporation** |
| **Source Location:** | **1751 Arcadia Dr., Columbus, Indiana 47201** |
| **County:** | **Batholomew** |
| **SIC Code:** | **3714** |
| **Registration No.:** | **005-29599-00103** |
| **Permit Reviewer:** | **Swarna Prabha** |

On August 25, 2010, the Office of Air Quality (OAQ) received an application from PMG Indiana Corporation related to the manufacturing of various automotive parts for engines, transmissions and shock absorbers out of sintered powder of an existing plant.

### Existing Approvals

There have been no previous approvals issued to this source.

### County Attainment Status

The source is located in Bartholomew County.

| Pollutant | Designation |
|---|---|
| $SO_2$ | Better than national standards. |
| CO | Unclassifiable or attainment effective November 15, 1990. |
| $O_3$ | Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1] |
| $PM_{10}$ | Unclassifiable effective November 15, 1990. |
| $NO_2$ | Cannot be classified or better than national standards. |
| Pb | Not designated. |
| [1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.<br>Unclassifiable or attainment effective April 5, 2005, for PM2.5. | |

*(Air Pollution Control Board; 326 IAC 1-4-4; filed Dec 26, 2007, 1:43 p.m.: 20080123-IR-326070308FRA)*

(a) Ozone Standards

Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Bartholomew County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM2.5

Bartholomew County has been classified as attainment for $PM_{2.5}$. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for $PM_{2.5}$ emissions. These rules became effective on July 15, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for $PM_{2.5}$

emissions until 326 IAC 2-2 is revised.

(c) Other Criteria Pollutants
Bartholomew County has been classified as attainment or unclassifiable in Indiana for all polutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

**Fugitive Emissions**

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-5.1-2 (Registrations) applicability.

**Unpermitted Emission Units and Pollution Control Equipment**

The Office of Air Quality (OAQ) has reviewed an application, submitted by PMG Indiana Corp. on August 25, 2010, relating to the manufacturing of various automotive parts for engines, transmissions and shock absorbers out of sintered powder metal.

The source consists of the following existing emission units:

(a) Metal powder mixing room consisting of two (2) enclosed double cone mixers, identified as T-01, and T-02 for blending and mixing metal powder for sintering, constructed in 1989, with a maximum capacity of 8,000 lb/hr and 6,000 lb/hr respectively, using torrit dust collectors to control particulates, exhausting outside.

NOTE: Each mixer operates as a batch process that takes 30 minutes to complete. The maximum throughput is based on each mixer used once per hour.

(b) Eighteen (18) compact presses for manufacturing automotive parts, constructed in 1989 consisting of conveyer system controlled by stationary and portable dust collectors, exhausting inside.

(c) Seventeen (17) sintering furnaces, consisting of fifteen (15) electric glow tubes and two (2) natural gas mixing room furnaces having a maximum heat input capacity of 0.75 MMBtu/hr, and thirty six (36) sintering flame curtains to burn off the endothermic gases and to shield the parts from oxidation, each sintering furnace having a maximum heat input capacity of 0.25 MMBtu/hr, constructed in 1989, and processing 824 lb/hr of parts each line, with emissions exhausting outside.

NOTE: There are only combustion emissions from sintering furnaces. The metal processed through the sintering furnaces is already compact and pressed into parts. There are negligible particulate emissions. There are no VOC's in the lubricant (Acrawax) contained in the powdered metal.

(d) Two (2) natural gas-fired carburizing ovens, constructed in 1989, identified as carburizer #1 and carburizer #2, maximum heat input capacity of 2.999 MMBtu/hr and 3.239 MMBtu/hr respectively, exhausting outside.

(e) One (1) natural gas-fired rinsing furnace from carburizing, constructed in 1989, maximum heat input capacity of 0.325 MMBtu/hr, exhausting outside.

(f) One (1) natural gas-fired draw furnace from carburizing, constructed in 1989, maximum heat input capacity of 1.0 MMBtu/hr, exhausting outside.

(g) One (1) natural gas-fired evaporator furnace from carburizing, constructed in 1989, maximum heat input capacity of 0.395 MMBtu/hr, exhausting outside.

(h) Three (3) natural gas-fired Lindberg furnaces, identified as Lindberg#1, Lindberg#2 and Lindberg #3, constructed in 1989, maximum heat input capacity of 0.526 MMBtu/hr each, exhausting outside.

(i) Nine (9) natural gas-fired Air Make-up units, constructed in 1989, maximum combined heat input capacity of 0.616 MMBtu/hr, exhausting outside.

(j) Ten (10) natural gas-fired Roof top units, constructed in 1989, maximum combined heat input capacity of 0.685 MMBtu/hr, exhausting outside.

(k) Two (2) natural gas-fired mixing room furnaces, constructed in 1989, maximum combined heat input capacity of 0.069 MMBtu/hr, exhausting outside.

## Enforcement Issues

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

## Emission Calculations

In accordance with Air-014-NPD, as revised on March 9, 1999, and pursuant to 326 IAC 2-5.1 the source specific alternative emission factors are used from the two mixing and compact presses operations at this facility. The overall emissions of particulate must be less than 25 tons per year for this source before control, to be permitted as a Registration source. Any change that would increase the emissions from these operations such that the potential to emit PM10 of the entire source is greater than the 25 TPY thresholds requires prior approval from IDEM.

Emission calculations for the source were provided by the Permittee and verified by the Indiana Department of Environmental Management, Office of Air Quality.

See Appendix A of this TSD for detailed emission calculations.

**Permit Level Determination –Registration**

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

| Process/ Emission Unit | Potential To Emit of the Entire Source (tons/year) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | PM | PM10* | PM2.5 | $SO_2$ | NOx | VOC | CO | Total HAPs | Worst Single HAP |
| ** Metal powder mixing room and 18 compact presses | 10.88 | 10.88 | 10.88 | 0 | 0 | 0 | 0 | 0.416 | 0.273 (Nickel) |
| ***Natural-gas combustion | 0.178 | 0.713 | 0.713 | 0.056 | 9.375 | 0.516 | 7.875 | 0.17 | 0.169 (Hexane) |
| **Total PTE of Entire Source** | 11.056 | 0.713 | 0.713 | 0.056 | 9.375 | 0.516 | 7.875 | 0.586 | 0.273 (Nickel) |
| Exemptions Levels | 5 | 5 | 5 | 10 | 10 | 10 | 25 | 25 | 10 |
| Registration Levels | 25 | 25 | 25 | 25 | 25 | 25 | 100 | 25 | 10 |

negl. = negligible
* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".
There are no emissions in AP42 for PM2.5, PM10 = PM2.5
** Emissions are from the two mixers and compact presses.
*** Emissions included from all combustion units.

(a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of all pollutants are within the ranges listed in 326 IAC 2-5.1-2(a)(1). The PTE of all other regulated criteria pollutants are less than the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 (Registrations). A Registration will be issued.

(b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

**Federal Rule Applicability Determination**

New Source Performance Standards (NSPS)

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(a) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPS), 40 CFR Part 63.11514, Subpart XXXXXX (National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories ) are not included in the permit, because this source does not contain materials that contain or have the potential to emit metals, defined to be the compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd), in the amounts greater than or equal to 0.1 percent by weight (of the metal), and materials that contain manganese in amounts grater than or equal to 1.0 percent by weight (of the metal).

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries (40CFR 63.7681, Subpart EEEEE) are not included in this review because the source is not a major source of HAP and does not produce metal castings as defined in 40 CFR 63.2 or 40 CFR 63.761.

(c) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

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

**State Rule Applicability Determination**

The following state rules are applicable to the source:

(a) 326 IAC 2-5.1-2
Registration applicability is discussed under the Permit Level Determination – Registration section above.

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

(c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

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

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

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A,

Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

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

(f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.

(h) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.

**State Rule Applicability - Mixing, Blending T-01 and T-02 and Compact presses**

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

(a) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the metal powder mixing and blending (T-01) shall not exceed 10.37 pounds per hour when operating at a process weight rate of 4.0 tons per hour.

NOTE: The maximum process throughput for mixer (T-01) is 8,000 lbs/hour which is equivalent to 4.0 tons/hr.

(b) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the metal powder mixing, and blending (T-02) shall not exceed 8.56 pounds per hour when operating at a process weight rate of 3.0 tons per hour.

NOTE: The maximum process throughput for mixer (T-02) is 6,000 lbs/hour which is equivalent to 3.0 tons/hr.

(c) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the each of the compact presses shall not exceed 2.18 pounds per hour each when operating at a process weight rate of 0.389 tons per hour each.

NOTE: There are eighteen (18) compact presses of equal capacity. It is assumed that the total amount of metal powder processed by mixers T-01 and T-02 (14,000 lbs/hr) is processed by eighteen (18) compacted presses. The powder throughput of each of the compact process is arrived as follows:

Process throughput of Mixers T-01 and T-02 (combined) = 14,000 lbs/hr
Process throughput of each compact press = 14,000 lbs/hr / 18 (compact presses)
Process throughput of each compact press = 777.78 lbs/hr
Process throughput of each compact press = 777.78 (lbs/hr)/ 2000 (lbs/ton)
Process throughput of each compact press = 0.389 tons/hr

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

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

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

**State Rule Applicability - Combustion Units and Furnaces**

(j) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
The natural gas-fired furnaces, Air Make-up units and Roof top units are not subject to the requirements 326 IAC 6-2 as they are not a source of indirect heating.

(k) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), the natural gas-fired furnaces, Air Make-up units and Roof top units are exempt from the requirements of 326 IAC 6-3, because each has a potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

(l) 326 IAC 7-1 (Sulfur dioxide emission limitations: applicability)
The natural gas-fired furnaces, Air Make-up units and Roof top units are not subject to the requirements of 326 IAC 7-1, because the potential and the actual emissions of sulfur dioxide are less than twenty-five (25) tons per year and ten (10) pounds per hour, respectively.

(m) 326 IAC 4-2-2 (Incinerators)
The natural gas-fired flame curtain sintering furnaces, are not subject to the requirements of 326 IAC 4-2-1 because they do not meet the definition of an incinerator provided in 326 IAC 1-2-34 and are not subject to any of the rules identified in 326 IAC 4-2-1(b)(2).

(n) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.

(o) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

**Testing and Compliance Monitoring**

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

Following monitoring conditions are necessary because the dust collectors to control particulate emissions, associated with two (2) cone mixers for blending and mixing the metal powder for sintering must operate properly to ensure compliance with 326 2-5.1 (Registration).

| Emission Unit/Control | Operating Parameters | Frequency | Excursions and Exceedances |
|---|---|---|---|
| Metal Powder mixer (T-01,T-02) Torit dust collector | water pressure drop<br>Visible emissions | Once per day | Response steps |

(b) Broken or Failed Bag Detection
The Permittee shall maintain the dust collectors and replace broken or failed dust collector as needed.

(c) Testing is not required on dust collectors, compliance will be demonstrated through proper operation and parametric monitoring of the dust collectors.

(d) No AP-42 emission factors exist for blending, mixing and compacting operation in sintering process. IDEM has determined that these emission factors will provide a suitably conservative estimate, because the mixing performed at this source is a batch process while the emission factors were developed for a continuous operation. The uncontrolled particulate emissions are less than twelve

(12) tons per year from both mixers and all eighteen compact presses including combustion units. Additionally, the data indicates that the uncontrolled potential PM emissions are much less than the 326 IAC 6-3 allowable emissions for these units. Finally, these units are controlled by dust collectors, therefore, these alternative emission factors will be allowed, and testing will not be required to confirm their validity.

## Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on August 25, 2010.

The operation of this source shall be subject to the conditions of the attached proposed Registration No. 003-29599-00103. The staff recommends to the Commissioner that this Registration be approved.

## IDEM Contact

(a) Questions regarding this proposed permit can be directed to Swarna Prabha at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5376 or toll free at 1-800-451-6027 extension 45376.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.in.gov/idem

## Appendix A: Emissions Calculations
## Summary of Potential Emissions



**Company Name:** PMG Indiana Corp.
**Address City IN Zip:** 1751 Arcadia Dr., Columbus, IN 47201
**Registration No:** R005-29599-00103
**Reviewer:** Swarna Prabha

| | Criteria Air Pollutants | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | PM | PM10 | PM2.5 | SOx | NOx | CO | VOCs | LEAD |
| Source | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) |
| Blending, mixing, compacting | 10.88 | 10.880 | 10.880 | NA | NA | NA | NA | NA |
| Nat. Gas Combustion | 0.18 | 0.713 | 0.713 | 0.056 | 9.375 | 7.875 | 0.516 | 0.000 |
| **Totals** | 11.06 | 11.593 | 11.593 | 0.056 | 9.375 | 7.875 | 0.516 | 0.000 |

| | Hazardous Air Pollutants | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Arsenic | Beryllium | Cadmium | Chromium | Cobalt | Mangenese | Nickel | Selenium |
| Source | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) |
| Blending, mixing, compacting | NA | NA | NA | NA | NA | 0.110 | 0.273 | NA |
| Nat. Gas Combustion | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **Totals** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.110 | 0.273 | 0.000 |

| | Hazardous Air Pollutants | | | | |
|---|---|---|---|---|---|
| | Benzene | Formaldehyde | Phosphorous | Hexane | Toluene |
| Source | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) | PTE (tons/yr) |
| Blending, mixing, compacting | NA | NA | 0.033 | NA | NA |
| Nat. Gas Combustion | 0.000 | 0.001 | NA | 0.169 | 0.000 |
| **Totals** | 0.000 | 0.001 | 0.033 | 0.169 | 0.000 |

Total emissions based on rated capacity at 8,760 hours/year.
There are no emission factors in AP42 for PM2.5, PM10 = PM2.5

**Appendix A: Emissions Calculations**
**Particulates Blending, Mixing and Compact presses**

**Company Name:** **PMG Indiana Corp.**
**Address City IN Zip:** **1751 Arcadia Dr., Columbus, IN 47201**
**Registration No:** **R005-29599-00103**
**Reviewer:** **Swarna Prabha**



| | Particulate Matter | | |
|---|---|---|---|
| **Control Unit Description** | **Processes generating air emissions** | **Particulate PTE (tons/yr)** | ****Controlled PTE (tons/yr)** |
| Dust Collectors | Blending, mixing, compacting | 10.88 | 0.11 |
| | mixers T-01, T-02 and compact p | | |
| **TOTAL** | | **10.88** | **0.11** |

| Powder Density (g/cm3) | Drum Volume (cm3/drum) | Weight of powder (grams/drum) | Weight of powder (lbs/drum) |
|---|---|---|---|
| 7.9 | 242269 | 1913925.1 | 4219.48 |

| No. of Drums of dust generated per yr (drum/yr) | Weight of dust (lb/drum) | *Total Particulates (lb/yr) | *Total Particulates (lb/hr) | Total Particulates (tons/yr) |
|---|---|---|---|---|
| 6 | 3626.1 | 21756.6 | 2.48 | 10.88 |
| | | | | |

PTE PM T-01 (lb/hr) based on process throughput of 4 tons per year = 1.42 lb/hr
PTE PM T-02 (lb/hr) based on process throughput of 3 tons per year = 1.06 lb/hr

**Methodology:**
Weight of Powder (lbs/drum) = [Powder density (g/cm3)] * Drum Volume (cm3/drum) * (0.0022046 lbs/g)
Total Particulates (lbs/yr) = (No. of Drums of dust generated mixers T-01, T-02 and compact presses/yr)*(Weight of dust (lb/drum))
Total Particulates (Tons/yr) = [Total Particulates (lbs/yr)]/2000 (lbs/ton)
NOTES:
Actual number of hours dust collected is estimated at 8760 hours per year, and powder through put of 11,786,783 lbs/yr.
*Total dust generated and collected is from both blenders T-01 and T-02 and compact process based on 2009 data and 8760 hrs.
**Assumes 99% efficiency for the dust collectors.
Metal powder density = 7.9 g/cm3
Volume of One (1) 55 gal drum = 242269 cubic centimeters
1 gram = 0.0022046 lbs.
Each drum has a capacity of 55 gallon

## Appendix A: Emissions Calculations
## Potential HAPs- Powder mixing, Blending and Compact presses

**Company Name:** PMG Indiana Corp.
**Address City IN Zip:** 1751 Arcadia Dr., Columbus, IN 47201
**Registration No:** R005-29599-00103
**Reviewer:** Swarna Prabha

| | | | HAPS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Mangenese | | Nickel | | Phosphorus | |
| Metal Powders | Amount used (lbs/yr) | *Amount disposed (approx.) (lbs/yr) | % in powder | potential emissions (lbs/yr) | % in powder | potential emissions (lbs/yr) | % in powder | potential emissions (lbs/yr) |
| 8082 | 165,931 | 1,149 | | 0.00 | | 0.00 | | 0.00 |
| CE15M | 51,357 | 356 | | 0.00 | | 0.00 | | 0.00 |
| Ancorsteel 1000B | 1,549,707 | 10,729 | | 0.00 | | 0.00 | | 0.00 |
| MH100 | 1,047,402 | 7,251 | | 0.00 | | 0.00 | | 0.00 |
| Ancorsteel 1000 | 2,059,858 | 14,260 | 0.015 | 213.91 | | 0.00 | | 0.00 |
| Ancorsteel 1000C | 36,958 | 256 | 0.025 | 6.40 | | 0.00 | | 0.00 |
| 85HP | 18,045 | 125 | | 0.00 | | 0.00 | | 0.00 |
| D.HP-1 Distaloy Based | 175,748 | 1,217 | | 0.00 | 0.044 | 53.54 | | 0.00 |
| 300MA | 529,733 | 3,667 | | 0.00 | | 0.00 | | 0.00 |
| 500MA(AD) 2.95 ~ 3.15 | 70,000 | 485 | | 0.00 | | 0.00 | | 0.00 |
| 500MA | 3,837,354 | 26,566 | | 0.00 | | 0.00 | | 0.00 |
| Distaloy 4600 AB Iron | 8,800 | 61 | | 0.00 | | 0.00 | | 0.00 |
| Distaloy 4800 AE Iron | 541,139 | 3,746 | | 0.00 | | 0.00 | | 0.00 |
| 3203 | 77,545 | 537 | | 0.00 | | 0.00 | | 0.00 |
| 230U | 132 | 1 | | 0.00 | | 0.00 | | 0.00 |
| Nickel 123 | 49,084 | 340 | | 0.00 | 0.991 | 336.75 | | 0.00 |
| Tin 101 | 2,050 | 14 | | 0.00 | | 0.00 | | 0.00 |
| MnSE Mangnese Sulfide | 73 | 1 | 0.65 | 0.33 | | 0.00 | | 0.00 |
| B-31WR | 17,604 | 122 | | 0.00 | | 0.00 | | 0.00 |
| B-11WRO | 62,229 | 431 | | 0.00 | | 0.00 | | 0.00 |
| B16H Copper Premix | 48,392 | 335 | | 0.00 | | 0.00 | | 0.00 |
| B41UPH Copper Pre-mix | 48,547 | 336 | | 0.00 | | 0.00 | | 0.00 |
| B61WV Premix | 63,221 | 438 | | 0.00 | | 0.00 | | 0.00 |
| F65D(A) Ancorloy 4 | 1,125,700 | 7,793 | | 0.00 | 0.02 | 155.86 | | 0.00 |
| B95 Copper/Nickel Premix | 8,326 | 58 | | 0.00 | | 0.00 | | 0.00 |
| PASC45 Iron+Phosphorous | 191,852 | 1,328 | | 0.00 | | 0.00 | 0.05 | 66.41 |
| **Totals** | **11,786,783** | **81,600** | | **220.63** | | **546.15** | | **66.41** |

NOTES:

The amount of each powder disposed was calculated based on disposal records for 2007 and the relative percentage of each powder versus the total amount of powder.

The potential HAP emissions assumes all of the particulate matter from the blending, mixing and compacting activities is emitted into the air.

* Includes all the disposed metal scrap and dust collected .

MSDS were not readily available, or the material ingredients were not quantified, for the metal powders identified in shaded boxes above.

**Appendix A: Emissions Calculations**

**Natural gas-fired combustion Units**

**Company Name:** PMG Indiana Corp.

**Address City IN Zip:** 1751 Arcadia Dr., Columbus, IN 47201

**Registration No:** R005-29599-00103

**Reviewer:** Swarna Prabha



| Unit Description | Heat Input Capacity (MMBtu/hr) | Potential Throughput (MMCF/yr) | PM Potential Annual (tons/yr) | PM10 Potential Annual (tons/yr) | SOx Potential Annual (tons/yr) | NOx Potential Annual (tons/yr) | CO Potential Annual (tons/yr) | VOC Potential Annual (tons/yr) | LEAD Potential Annual (tons/yr) |
|---|---|---|---|---|---|---|---|---|---|
| **Process Unit** | | | | | | | | | |
| Endothermic Gas Production | | | | | | | | | |
| Lindberg #1 | 0.526 | 4.61 | 0.004 | 0.018 | 0.001 | 0.230 | 0.194 | 0.013 | 0.000 |
| Lindberg #2 | 0.526 | 4.61 | 0.004 | 0.018 | 0.001 | 0.230 | 0.194 | 0.013 | 0.000 |
| Lindberg #3 | 0.526 | 4.61 | 0.004 | 0.018 | 0.001 | 0.230 | 0.194 | 0.013 | 0.000 |
| | | | | | | | | | |
| Carburizer #1 | 2.999 | 26.27 | 0.025 | 0.100 | 0.008 | 1.313 | 1.103 | 0.072 | 0.000 |
| Carburizer #2 | 3.239 | 28.37 | 0.027 | 0.108 | 0.009 | 1.418 | 1.192 | 0.078 | 0.000 |
| | | | | | | | | | |
| Rinse - Carburizing | 0.325 | 2.85 | 0.003 | 0.011 | 0.001 | 0.142 | 0.120 | 0.008 | 0.000 |
| Draw - Carburizing | 1.0 | 8.76 | 0.008 | 0.033 | 0.003 | 0.438 | 0.368 | 0.024 | 0.000 |
| Evaporator - Carburizing | 0.395 | 3.46 | 0.003 | 0.013 | 0.001 | 0.173 | 0.145 | 0.010 | 0.000 |
| | | | | | | | | | |
| Sintering - Flame Curtains | 9.0 | 78.84 | 0.075 | 0.300 | 0.024 | 3.942 | 3.311 | 0.217 | 0.000 |
| Sintering Furnace #1 | 0.8 | 6.57 | 0.006 | 0.025 | 0.002 | 0.329 | 0.276 | 0.018 | 0.000 |
| Sintering Furnace #2 | 0.8 | 6.57 | 0.006 | 0.025 | 0.002 | 0.329 | 0.276 | 0.018 | 0.000 |
| | | | | | | | | | |
| **Comfort Heat** | | | | | | | | | |
| Make-up units (9) | 0.616 | 5.40 | 0.005 | 0.021 | 0.002 | 0.270 | 0.227 | 0.015 | 0.000 |
| Roof top units (10) | 0.685 | 6.00 | 0.006 | 0.023 | 0.002 | 0.300 | 0.252 | 0.017 | 0.000 |
| Mixing Room | 0.069 | 0.60 | 0.001 | 0.002 | 0.000 | 0.030 | 0.025 | 0.002 | 0.000 |
| **Totals** | **21.405** | **187.51** | **0.178** | **0.713** | **0.056** | **9.375** | **7.875** | **0.516** | **0.000** |

| Unit Description<br>Process Unit | Heat Input Capacity (MMBtu/hr) | Potential Throughput (MMCF/yr) | Benzene Potential Annual (tons/yr) | Formaldehyde Potential Annual (tons/yr) | Hexane Potential Annual (tons/yr) | Toluene Potential Annual (tons/yr) | Arsenic Potential Annual (tons/yr) | Beryllium Potential Annual (tons/yr) | Cadmium Potential Annual (tons/yr) | Chromium Potential Annual (tons/yr) | Cobalt Potential Annual (tons/yr) | Mangenese Potential Annual (tons/yr) | Mercury Potential Annual (tons/yr) | Nickel Potential Annual (tons/yr) | Selenium Potential Annual (tons/yr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Endothermic Gas Production | | | | | | | | | | | | | | | |
| Lindberg #1 | 0.526 | 4.608 | 0.000 | 0.000 | 0.004 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Lindberg #2 | 0.526 | 4.608 | 0.000 | 0.000 | 0.004 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Lindberg #3 | 0.526 | 4.608 | 0.000 | 0.000 | 0.004 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | | | | | | |
| Carburizer #1 | 2.999 | 26.269 | 0.000 | 0.000 | 0.024 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Carburizer #2 | 3.239 | 28.369 | 0.000 | 0.000 | 0.026 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | | | | | | |
| Rinse - Carburizing | 0.325 | 2.847 | 0.000 | 0.000 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Draw - Carburizing | 1.0 | 8.760 | 0.000 | 0.000 | 0.008 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Evaporator - Carburizing | 0.395 | 3.460 | 0.000 | 0.000 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | | | | | | |
| Sintering - Flame Curtains | 9.0 | 78.840 | 0.000 | 0.000 | 0.071 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sintering Furnace #1 | 0.8 | 6.570 | 0.000 | 0.000 | 0.006 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sintering Furnace #2 | 0.8 | 6.570 | 0.000 | 0.000 | 0.006 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | | | | | | | | |
| **Comfort Heat** | | | | | | | | | | | | | | | |
| Make-up units (9) | 0.616 | 5.396 | 0.000 | 0.000 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Roof top units (10) | 0.685 | 6.001 | 0.000 | 0.000 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Mixing Room | 0.069 | 0.600 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **Totals** | **21.405** | **187.506** | **0.0002** | **0.001** | **0.169** | **0.000** | **0.000** | **0.000** | **0.000** | **0.000** | **0.000** | **0.000** | **0.000** | **0.000** | **0.000** |

MMBtu = 1,000,000 Btu, MMCF = 1,000,000 Cubic Feet of Gas

All emission factors are based on normal firing.

Potential Throughput (MMCF/yr) = [Combined Total Heat Input Capacity (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

Potential to Emit (tons/yr) = [Potential Throughput (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2,000 lbs]

Emission Factors:

| Pollutant | lbs/MMCF burned | Pollutant | lbs/MMCF burned | Pollutant | lbs/MMCF burned |
|---|---|---|---|---|---|
| SOx: | 0.6 | Benzene | 0.0021 | Chromium | 0.0014 |
| NOx: | 100 | Formaldehyde | 0.075 | Cobalt | 0.000084 |
| CO: | 84 | Hexane | 1.8 | Mangenese | 0.00038 |
| VOC: | 5.5 | Toluene | 0.0034 | Mercury | 0.00026 |
| Lead: | 0.0005 | Arsenic | 0.0002 | Nickel | 0.0021 |
| PM10: | 7.6 | Beryllium | 0.000012 | Selenium | 0.000024 |
| PM: | 1.9 | Cadmium | 0.0011 | | |

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)

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

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

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
*We Protect Hoosiers and Our Environment.*

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

*Thomas W. Easterly*
**Commissioner**

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

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

TO: Greg Brown
PMG Indiana Corporation
1751 Arcadia Dr
Columbus, IN 47201

DATE: October 27, 2010

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

SUBJECT: Final Decision
Registration
005-29599-00103

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Martin Agnew - President
Christopher Bishop – ATC Associates, Inc.
OAQ Permits Branch Interested Parties List

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

# Mail Code 61-53

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| 2 | | Martin Agnew President PMG Indiana Corporation 1751 Arcadia Dr Columbus IN 47201 *(RO CAATS)* | | | | | | | | | |
| 3 | | Columbus City Council and Mayors Office 123 Washington St Columbus IN 47201 *(Local Official)* | | | | | | | | | |
| 4 | | Mr. Elbert Held 734 Hutchins Columbus IN 47201 *(Affected Party)* | | | | | | | | | |
| 5 | | Mr. Boris Ladwig 333 2nd St Columbus IN 47201 *(Affected Party)* | | | | | | | | | |
| 6 | | Eileen Booher 1316 Chestnut St. Columbus IN 47201 *(Affected Party)* | | | | | | | | | |
| 7 | | Mr. Lcnfc 1039 Sycamore St Columbus IN 47201 *(Affected Party)* | | | | | | | | | |
| 8 | | Bartholomew County Commissioners 440 Third Street Columbus IN 47202 *(Local Official)* | | | | | | | | | |
| 9 | | Mr. Jean Terpstra 3210 Grove Pkwy Columbus IN 47203 *(Affected Party)* | | | | | | | | | |
| 10 | | August Tindell 31 Reo Street Columbus IN 47201 *(Affected Party)* | | | | | | | | | |
| 11 | | Terry Lowe 1110 Central Ave. Columbus IN 47201 *(Affected Party)* | | | | | | | | | |
| 12 | | Mr. Charles Mitch 3210 Grove Parkway Columbus IN 47203 *(Affected Party)* | | | | | | | | | |
| 13 | | Mr. Christopher Bishop ATC Associates Inc. 7988 Centerpoint Drive Indianapolis IN 46256 (Consultant) | | | | | | | | | |
| 14 | | Bartholomew County Health Department 440 3rd Street, Suite 303 Columbus IN 47201 *(Health Department)* | | | | | | | | | |
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