



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: July 23, 2007
RE: Advanced Magnesium Alloys Corporation / 095-21966-00114
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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**FEDERALLY ENFORCEABLE STATE
OPERATING PERMIT (FESOP) RENEWAL**

**OFFICE OF AIR QUALITY
and
ANDERSON OFFICE of AIR MANAGEMENT**

**Advanced Magnesium Alloys Corporation
1820 East 32nd Street
Anderson, Indiana 46013**

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

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

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

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

Operation Permit No.: F095-21966-00114	
Original signed by: Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: July 23, 2007 Expiration Date: July 23, 2012

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

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

The Permittee owns and operates a stationary scrap magnesium recycling facility.

Source Address:	1820 East 32 nd Street, Anderson, Indiana 46013
Mailing Address:	1820 East 32 nd Street, Anderson, Indiana 46013
General Source Phone:	(765) 643-5873
SIC Code:	3341
Source Location Status:	Madison Non-attainment for 8-Hour Ozone Standard Attainment or unclassifiable for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD and Emission Offset; Minor Source, Section 112 of the Clean Air Act

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

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

- (a) Two (2) furnace lines, constructed in 2001, each line consisting of one (1) electric melting furnace, one (1) electric continuous refining furnace and one (1) continuous ingot pouring operation, with a total maximum throughput of 21,120 pounds of scrap magnesium per hour, and venting through stack #3.
- (b) One (1) salt furnace, constructed in 2001 with a maximum capacity of 3,260 tons of salt per year, and venting through stack # 3.
- (c) One (1) melting electric resistance crucible furnace, identified as FCE 4310, with a maximum throughput rate of 1,500 pounds of scrap per hour, and exhausting to stack # 3. This unit has not been constructed as of this renewal.

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

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

- (a) Two (2) electric resistance heaters to dry scrap magnesium, identified as HTR-2110 and HTR-2210, total maximum throughput of 21,120 pounds of scrap magnesium per hour, and venting through stacks 1 and 2. [326 IAC 6-3-2]
- (b) One (1) shredder, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (c) Two (2) casting conveyors, with a total maximum throughput of 21,120 pounds of molten magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (d) Two (2) cooling conveyors, with a total maximum throughput of 21,120 pounds of molten magnesium per hour, and venting internally. [326 IAC 6-3-2]

- (e) Four (4) heater feed conveyors, each with a maximum throughput of 10,560 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (f) One (1) shredder feed conveyor, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (g) One (1) shredder discharge conveyor, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (h) One (1) tramp iron removal magnet system, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (i) One (1) shuttle conveyor, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (j) Four (4) feed storage bins, with a total maximum capacity of 90 tons, and a maximum throughput of 61,760 tons per year and venting internally. [326 IAC 6-3-2]
- (k) Five (5) natural gas space heaters with a total maximum heat capacity of 8 MMBtu, and venting internally. [326 IAC 6-2-4]
- (l) Two (2) natural gas tool heaters with a maximum heat capacity of 0.5 MMBtu, and venting internally. [326 IAC 6-2-4]
- (m) Two (2) natural gas mold heaters with a maximum heat capacity of 0.2 MMBtu, and venting internally. [326 IAC 6-2-4]

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

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

SECTION B GENERAL CONDITIONS

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

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

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

-
- (a) This permit F095-21966-00114, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-4-5(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 and OES, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

B.3 Terms of Conditions [326 IAC 2-1.1-9.5]

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

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

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

-
- (a) 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, OAQ, Anderson Office of Air Management, and the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.
- (b) Unless otherwise stated, all terms and conditions in this permit that are local requirements, including any provisions designed to limit the source's potential to emit, are enforceable by Anderson Office of Air Management.

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

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

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

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

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

-
- (a) The Permittee shall furnish to IDEM, OAQ, and Anderson Office of Air Management within a reasonable time, any information that IDEM, OAQ, and Anderson Office of Air Management 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 the "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ, and Anderson Office of Air Management copies of records required to be kept by this permit.

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

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

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

B.9 Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)] [326 IAC 2-8-5(1)]

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

B.10 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

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

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

and

Anderson Office of Air Management
P.O. Box 2100
120 East 8th Street
Anderson, Indiana 46011

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, and Anderson Office of Air Management on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
 - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

- (2) The compliance status;
- (3) Whether compliance was continuous or intermittent;
- (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
- (5) Such other facts as specified in Sections D of this permit, IDEM, OAQ, and Anderson Office of Air Management may require to determine the compliance status of the source.

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

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

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs), including the following information on each facility:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) A copy of the PMPs shall be submitted to IDEM, OAQ, and Anderson Office of Air Management upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ, and Anderson Office of Air Management. IDEM, OAQ, and Anderson Office of Air Management 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 the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation, Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describes the following:
 - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;

- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ and Anderson Office of Air Management, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone No.: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section)
or,
Telephone No.: 317-233-0178 (ask for Compliance Section)
Facsimile No.: 317-233-6865

and, Anderson Office of Air Management:

Telephone No.: 1-765-648-6158
Facsimile No.: 765-648-5924

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

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

and

Anderson Office of Air Management
P.O. Box 2100
120 East 8th Street
Anderson, Indiana 46011

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

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

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

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

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ, and Anderson Office of Air Management may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ, and Anderson Office of Air Management, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
 - (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.
- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

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

- (a) All terms and conditions of permits established prior to F095-21966-00114 and issued pursuant to permitting programs approved into the state implementation plan have been either
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

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

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

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

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provision), 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

and

Anderson Office of Air Management
P.O. Box 2100
120 East 8th Street
Anderson, Indiana 46011

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 need to be included in this report.

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

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

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

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a FESOP modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ, or Anderson Office of Air Management determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ, or Anderson Office of Air Management, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ, or Anderson Office of Air Management, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, or Anderson Office of Air Management, may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

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

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ, and Anderson Office of Air Management and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "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, IN 46204-2251

and

Anderson Office of Air Management
P.O. Box 2100
120 East 8th Street
Anderson, Indiana 46011

- (b) Timely Submittal of Permit Renewal [326 IAC 2-8-3]
 - (1) A timely renewal application is one that is:
 - (A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (B) 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, and Anderson Office of Air Management on or before the date it is due.
 - (2) If IDEM, OAQ, and Anderson Office of Air Management upon receiving a timely and complete 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.
- (c) Right to Operate After Application for Renewal [326 IAC 2-8-9]

If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ, and Anderson Office of Air Management 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, and

Anderson Office of Air Management, any additional information identified as needed to process the application.

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

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

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

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

and

Anderson Office of Air Management
P.O. Box 2100
120 East 8th Street
Anderson, Indiana 46011

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

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

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

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

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-8-11.1 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

Anderson Office of Air Management
P.O. Box 2100
120 East 8th Street
Anderson, Indiana 46011

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)

77 West Jackson Boulevard
Chicago, Illinois 60604-3590

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

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

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

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

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

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

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

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

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

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

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

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

and

Anderson Office of Air Management
P.O. Box 2100
120 East 8th Street
Anderson, IN 46011

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

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

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

- (a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action, or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4320 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

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

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

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

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

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

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 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 Overall Source Limit [326 IAC 2-8]

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

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period. This limitation shall also make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-3 (Emission Offset) not applicable;
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) The potential to emit particulate matter (PM) from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period.

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

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

C.3 Opacity [326 IAC 5-1]

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

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

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

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

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

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]

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

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

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

C.7 Stack Height [326 IAC 1-7]

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

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

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 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

and

Anderson Office of Air Management
P.O. Box 2100
120 East 8th Street
Anderson, IN 46011

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

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1 emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Accredited Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

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

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

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

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

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

and

Anderson Office of Air Management
P.O. Box 2100
120 East 8th Street
Anderson, Indiana 46011

- no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "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 Anderson Office of Air Management not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, and Anderson Office of Air Management, if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

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

and

Anderson Office of Air Management
P.O. Box 2100
120 East 8th Street
Anderson, IN 46011

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

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

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

- (a) When required by any condition of this permit, and 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 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 an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

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

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

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

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

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

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

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred 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 the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

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

and

Anderson Office of Air Management
P.O. Box 2100
120 East 8th Street
Anderson, Indiana 46011

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, and Anderson Office of Air Management on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

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

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

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

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (a) Two (2) furnace lines, constructed in 2001, each line consisting of one (1) electric melting furnace, one (1) electric continuous refining furnace and one (1) continuous ingot pouring operation, with a total maximum throughput of 21,120 pounds of scrap magnesium per hour, and venting through stack #3.
- (b) One (1) salt furnace, constructed in 2001 with a maximum capacity of 3,260 tons of salt per year, and venting through stack # 3.
- (c) One (1) melting electric resistance crucible furnace (identified as FCE 4310), with a maximum throughput rate of 1,500 pounds of scrap per hour, and exhausting to stack # 3. This unit has not been constructed as of this renewal.

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

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

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

Particulate emissions from the following units shall be limited as follows when operating at the listed process weight rate.

Emission Unit	Process Weight Rate (tons/hr)	Emission Limit (lb/hr)
Each One (1) Furnace Line	5.28	12.5
Salt Furnace	0.372	2.1

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:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour (lb/hr), and}$$

$$P = \text{process weight rate in tons per hour (tons/hr)}$$

D.1.2 Hazardous Air Pollutants (HAPs)

The total amount of make-up process salt of ten percent (10%) Mg Cl₂ to the two (2) furnace lines shall be limited to less than 3,322 tons of process salt per twelve (12) consecutive month period with compliance determined at the end of each month. The HCl emissions shall not exceed 4.84 pounds per ton of process salt used in the two (2) furnace lines.

The total amount of make-up process salt of ten percent (10%) Mg Cl₂ to the salt furnace with a maximum capacity of 3,260 tons of process salt per twelve (12) consecutive month period with compliance determined at the end of each month. The HCl emissions shall not exceed 6.13 pounds per ton of process salt.

This limit is required to limit the potential to emit of a single HAP (HCl) to less than ten (10) tons per twelve (12) consecutive month period. Compliance with this limit satisfies the requirements of 326 IAC 2-8-4 (FESOP) and render 326 IAC 2-4.1-1 (Major Sources of Hazardous Air Pollutants) not applicable.

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

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility.

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

- (a) Prior to March 13, 2014, the Permittee shall perform PM and PM₁₀ testing on one (1) of the two (2) furnace lines, utilizing methods as approved by the Commissioner. This test shall be repeated once every five (5) years from the date of the most recent valid compliance test.
- (b) Prior to March 12, 2014, the Permittee shall perform PM and PM₁₀ testing on the salt furnace, utilizing methods as approved by the Commissioner. This test shall be repeated once every five (5) years from the date of the most recent valid compliance test.
- (c) Prior to March 13, 2009, the Permittee shall perform hydrogen chloride (HCl) testing on one (1) of the two (2) furnace lines, utilizing methods as approved by the Commissioner. The test shall be repeated once every five (5) years from this date.
- (d) Prior to March 12, 2009, the Permittee shall perform hydrogen chloride (HCl) testing on the salt furnace, utilizing methods as approved by the Commissioner. This test shall be repeated once every five (5) years from this date.

PM₁₀ includes filterable and condensable PM₁₀. All testing shall be conducted in accordance with Section C – Performance Testing.

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

D.1.5 Visible Emissions Notations

- (a) Visible emission notations of the furnace line stack exhaust (stack # 3) 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.
- (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 2-8-4(3)] [326 IAC 2-8-16]

D.1.6 Record Keeping Requirements

- (a) To document compliance with Condition D.1.2, the Permittee shall maintain records of the amount of salt fed to the two (2) furnace lines and the salt furnace.
- (b) To document compliance with Condition D.1.2, the Permittee shall maintain records of the test data recorded under D.1.4 (Testing Requirements).
- (c) To document compliance with Condition D.1.5, the Permittee shall maintain a daily record of visible emission notations of the furnace line stack exhaust (stack # 3). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (i.e. the process did not operate that day).
- (d) All records shall be maintained in accordance with Section C – General Record Keeping Requirements, of this permit.

D.1.7 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.2 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]: Insignificant Activities

- (a) Two (2) electric resistance heaters to dry scrap magnesium, identified as HTR-2110 and HTR-2210, total maximum throughput of 21,120 pounds of scrap magnesium per hour, and venting through stacks 1 and 2. [326 IAC 6-3-2]
- (b) One (1) shredder, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (c) Two (2) casting conveyors, with a total maximum throughput of 21,120 pounds of molten magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (d) Two (2) cooling conveyors, with a total maximum throughput of 21,120 pounds of molten magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (e) Four (4) heater feed conveyors, each with a maximum throughput of 10,560 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (f) One (1) shredder feed conveyor, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (g) One (1) shredder discharge conveyor, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (h) One (1) tramp iron removal magnet system, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (i) One (1) shuttle conveyor, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (j) Four (4) feed storage bins, with a total maximum capacity of 90 tons, and a maximum throughput of 61,760 tons per year and venting internally. [326 IAC 6-3-2]
- (k) Five (5) natural gas space heaters with a total maximum heat capacity of 8 MMBtu, and venting internally. [326 IAC 6-2-4]
- (l) Two (2) natural gas tool heaters with a maximum heat capacity of 0.5 MMBtu, and venting internally. [326 IAC 6-2-4]
- (m) Two (2) natural gas mold heaters with a maximum heat capacity of 0.2 MMBtu, and venting internally. [326 IAC 6-2-4]

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

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

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

Pursuant to 326 IAC 6-3-2, the particulate emissions from the following insignificant activities shall each be limited as shown in the following table:

Emission Unit	Process Weight Rate (tons/hr)	Emission Limit (lb/hr)
two (2) electric resistance heaters (HTR-2110 and HTR 2210)	10.56	19.9
one (1) shredder	30	40
two (2) casting conveyors (total)	10.56	19.9
two (2) cooling conveyors (total)	10.56	19.9
four (4) heater feed conveyors (each)	5.28	12.5
one (1) shredder feed conveyor	30	40
one (1) shredder discharge conveyor	30	40
one (1) tramp iron removal magnet system	30	40
one (1) shuttle conveyor	30	40
Four (4) feed storage bins	7.05	15.17

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

Interpolation and extrapolation 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 Particulate Emission Limitations [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4(a), for indirect heating units constructed after September 1, 1983 and having a total source heat input capacity less than 10 million British thermal units per hour, the PM emissions shall not exceed 0.6 pounds per million British thermal unit. Therefore, the PM from the five (5) natural gas space heaters, the two (2) natural gas tool heaters and the two (2) natural gas mold heaters is limited to 0.6 pound per million British thermal units total.

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

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

Source Name: Advanced Magnesium Alloys Corporation
Source Address: 1820 East 32nd Street, Anderson, Indiana 46013
Mailing Address: 1820 East 32nd Street, Anderson, Indiana 46013
FESOP No.: F095-21966-00014

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify) _____
- Report (specify) _____
- Notification (specify) _____
- Affidavit (specify) _____
- Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY - COMPLIANCE BRANCH
100 North Senate Avenue
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865**

and

**Anderson Office of Air Management
P.O. Box 2100, 120 East 8th Street
Anderson, Indiana 46011
Phone: 765-648-0178
Fax: 765-648-6865**

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

Source Name: Advanced Magnesium Alloys Corporation
Source Address: 1820 East 32nd Street, Anderson, Indiana 46013
Mailing Address: 1820 East 32nd Street, Anderson, Indiana 46013
FESOP No.: F095-21966-00114

This form consists of 2 pages

Page 1 of 2

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

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

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

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

Page 2 of 2

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

Form Completed by: _____
Title / Position: _____
Date: _____
Phone: _____

A certification is not required for this report.

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

and

ANDERSON OFFICE OF AIR MANAGEMENT

FESOP Quarterly Report

Source Name: Advanced Magnesium Alloys Corporation
Source Address: 1820 East 32nd Street, Anderson, Indiana 46013
Mailing Address: 1820 East 32nd Street, Anderson, Indiana 46013
FESOP No.: F095-21966-00144
Facility: Two (2) Furnace lines
Parameter: Make-up Process Salt of ten percent (10%) MgCl₂
Limit: 3,322 tons per twelve (12) consecutive month period

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

and

ANDERSON OFFICE OF AIR MANAGEMENT

FESOP Quarterly Report

Source Name: Advanced Magnesium Alloys Corporation
Source Address: 1820 East 32nd Street, Anderson, Indiana 46013
Mailing Address: 1820 East 32nd Street, Anderson, Indiana 46013
FESOP No.: F095-21966-00144
Facility: Salt Furnace
Parameter: Make-up Process Salt of ten percent (10%) MgCl₂
Limit: 3,260 tons per twelve (12) consecutive month period

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

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

and

ANDERSON OFFICE OF AIR MANAGEMENT

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

Source Name: Advanced Magnesium Alloys Corporation
Source Address: 1820 East 32nd Street, Anderson, Indiana 46013
Mailing Address: 1820 East 32nd Street, Anderson, Indiana 46013
FESOP No.: F095-21966-00114

Months: _____ to _____ Year: _____

Page 1 of 2

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

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

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

Addendum to the
Technical Support Document for a Federally Enforceable State Operating Permit
(FESOP) Renewal

Source Name: Advanced Magnesium Alloys Corporation
Source Location: 1820 E. 32nd Street, Anderson, Indiana 46013
County: Madison
SIC Code: 3341
Permit Number: F095-21966-00114
Permit Reviewer: Marcia Earl

On April 21, 2007, the Office of Air Quality (OAQ) had a notice published in the Herald Bulletin, Anderson, Indiana, stating that Advanced Magnesium Alloys Corporation had applied for a Federally Enforceable State Operating Permit (FESOP) renewal for a stationary scrap magnesium recycling facility. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments on the proposed FESOP renewal were received on May 07, 2007 from Michael Dicen of Air Analysis, Inc.

Comment #1

Emission Unit	PM/PM ₁₀ Emissions	HCl Emissions
Salt Melt Furnace	0.246 lbs/hr	0.33 lbs/hr
Melt Refining Furnace	2.1 lbs/hr	1.04 lbs/hr

The emission units are uncontrolled and the above table shows worse case scenario. Since the emissions are near the 10 tons per year for hydrogen chloride (HCl) and 100 tons per year for Particulate Matter (PM/PM₁₀). This results in 4.5 tons per year HCl from the refining furnace and 12.1 tons per year for PM₁₀. The commenter feels that PM/PM₁₀ or HCl testing should not be required for these two furnaces.

Response # 1

IDEM, OAQ agrees with the calculations for hydrogen chloride (HCl) emissions from the salt furnace. However, there are two refining furnaces. Both furnaces together would account for 9 tons per year of HCl and when added to the 1.4 tons per year from the salt furnace that would put Advanced Magnesium Alloy Corporation above the threshold limit for a FESOP permit.

Limiting the refining furnace line to 3,322 tons of processed salt, when multiplied by the 4.84 lbs of HCl per ton of processed salt and added to the salt furnace puts Advanced Magnesium Alloy Corporation at a little less than 10 tons per year of HCl. Therefore, testing is required for HCl and no changes will be made to the permit.

Response # 2

Additionally, in regards to PM/PM₁₀ emissions, PM₁₀ was tested only on one furnace with no PM₁₀ testing on the salt furnace. Advanced Magnesium Alloy Corporation requested to skip one cycle of PM/PM₁₀ testing. These emission units are uncontrolled and emitted at a rate less than 50% of their applicable limits during the last stack test. IDEM, OAQ Compliance has agreed to allow the next cycle of PM/PM₁₀ testing on the furnace lines and salt furnace to be skipped. The next PM/PM₁₀ test for the furnace lines and the salt furnace will be no later than March 12, 2014. Therefore, no changes will be made to this permit.

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

and

Anderson Office of Air Management

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

Source Background and Description

Source Name: Advanced Magnesium Alloys Corporation
Source Location: 1820 E. 32nd Street, Anderson, Indiana 46013
County: Madison
Operation Permit No.: F095-21966-00114
Permit Reviewer: AKY/Marcia Earl

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Advanced Magnesium Alloys Corporation relating to the operation of a stationary scrap magnesium recycling facility.

History

On November 22, 2005 Advanced Magnesium Alloys Corporation submitted applications to the OAQ requesting to renew its operating permit. Advanced Magnesium Alloys Corporation was issued a FESOP on September 18, 2001.

Permitted Emission Units and Pollution Control Equipment

- (a) Two (2) furnace lines, constructed in 2001, each line consisting of one (1) electric melting furnace, one (1) electric continuous refining furnace and one (1) continuous ingot pouring operation, with a total maximum throughput of 21,120 pounds of scrap magnesium per hour, and venting through stack #3.
- (b) One (1) salt furnace, constructed in 2001, with a maximum capacity of 3,260 tons of salt per year, and venting through stack # 3.
- (c) One (1) melting electric resistance crucible furnace, identified as FCE 4310, with a maximum throughput rate of 1,500 pounds of scrap per hour, and exhausting to stack # 3. This unit has not been constructed as of this renewal.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Two (2) electric resistance heaters to dry scrap magnesium, identified as HTR-2110 and HTR-2210, total maximum throughput of 21,120 pounds of scrap magnesium per hour, and venting through stacks 1 and 2. [326 IAC 6-3-2]
- (b) One (1) shredder, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]

- (c) Two (2) casting conveyors, with a total maximum throughput of 21,120 pounds of molten magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (d) Two (2) cooling conveyors, with a total maximum throughput of 21,120 pounds of molten magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (e) Four (4) heater feed conveyors, each with a maximum throughput of 10,560 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (f) One (1) shredder feed conveyor, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (g) One (1) shredder discharge conveyor, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (h) One (1) tramp iron removal magnet system, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [326 IAC 6-3-2]
- (i) One (1) shuttle conveyor, with a maximum throughput of 60,000 pounds of scrap magnesium per hour, and venting internally. [3226 IAC 6-3-2]
- (j) Four (4) feed storage bins, with a total maximum capacity of 90 tons, and a maximum throughput of 61,760 tons per year and venting internally. [326 IAC 6-3-2]
- (k) One (1) magnesium alloy ingot storage area venting internally.
- (l) One (1) aluminum storage area venting internally.
- (m) One (1) zinc storage area venting internally.
- (n) One (1) manganese chloride powder storage area venting internally.
- (o) One (1) primary magnesium ingot storage area venting internally.
- (p) One (1) salt mix storage area venting internally.
- (q) One (1) calcium fluoride storage area venting internally.
- (r) Five (5) natural gas space heaters with a total maximum heat capacity of 8 MMBtu, and venting internally. [326 IAC 6-2-4]
- (s) Two (2) natural gas tool heaters with a maximum heat capacity of 0.5 MMBtu, and venting internally. [326 IAC 6-2-4]
- (t) Two (2) natural gas mold heaters with a maximum heat capacity of 0.2 MMBtu, and venting internally. [326 IAC 6-2-4]
- (u) One (1) laboratory (Spark Testing) using wet scrubbers as control.
- (v) A scrap washing/drying system, using water and non-VOC containing detergent along with an electric heated dryer. This unit has not been constructed as of this renewal.

Existing Approvals

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

- (a) Interim Permit No. 095-19303I-00114, issued July 22, 2004,

- (b) MPR 095-19303-00114, issued August 16, 2004,
- (c) Administrative Amendment 095-18642-00114, issued May 11, 2004,
- (d) Administrative Amendment 095-18345-00114, issued December 31, 2003,
- (e) Reopen 095-16497, issued September 19, 2003,
- (f) Review Request 095-15879-00114, issued April 30, 2002, and
- (g) FESOP 095-13751-00114, issued September 18, 2001.

All terms and conditions of Minor Permit Revision 095-19303-00114, issued August 16, 2004 are no longer applicable because the Permittee did not construct the melting electric resistance crucible furnace (FCE 4310) or the scrap washing/drying system.

All other conditions from previous approvals are incorporated into this FESOP.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A, pages 1 - 6, of this document for detailed emissions calculations.

County Attainment Status

The source is located in Madison County.

Pollutant	Status
PM ₁₀	Attainment
PM _{2.5}	Attainment
SO ₂	Attainment
NO ₂	Attainment
8-Hour Ozone	Non-attainment
CO	Attainment
Lead	Attainment

- (a) 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 the ozone standards. Madison County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (b) Madison County has been classified as unclassifiable or attainment for PM_{2.5}. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM_{2.5} emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM_{2.5} emissions, it has directed States to regulate PM₁₀ emissions as surrogate for PM_{2.5} emissions.

- (c) Madison County has been classified as attainment or unclassifiable in Indiana for PM₁₀, SO₂, NO_x, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (e) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD or Emission Offset applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	Potential To Emit (tons/year)
PM	35.18
PM ₁₀	39.14
SO ₂	0.02
VOC	0.23
CO	3.46
NO _x	4.12

Note: For the purpose of determining Title V applicability for particulates, PM₁₀, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
HCl	14.56
TOTAL	14.56

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
 - (1) Pursuant to 326 IAC 2-8, this source, otherwise required to obtain a Title V permit, has agreed to accept a permit with federally enforceable limits that restrict PTE to below Title V emission levels. Therefore, this source will be issued a Federally Enforceable State Operating Permit (FESOP). By limiting the amount of salt to the two (2) furnace lines to 3,322 tons per year, the emissions from the two (2) furnace lines are limited to less than 8.04 tons per year of any single HAP. The salt furnace has a maximum capacity of 3,260 tons of salt per year and is limited to 1.96 tons per year or less of any single HAP. Therefore, Title V requirements are not applicable.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than 100 tons per year.
- (c) Fugitive Emissions
 Pursuant to 326 IAC 2-7-2(e), all fugitive emissions are included in determining the applicability of Part 70.

Actual Emissions

No previous emission data has been received from the source.

Potential to Emit After Issuance

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

Process/facility	Potential to Emit (tons/year)						
	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAP
Two (2) Furnace Lines, including fugitive PM emissions (each consisting of an electric melting furnace, an continuous refining furnace, and a continuous ingot pouring operation)	25.20	32.98	-	-	-	-	< than 8.04
Salt Furnace	1.48	1.48	-	-	-	-	< than 1.96
Natural Gas Combustible Sources	0.08	0.31	0.02	0.23	3.46	4.12	-
Thirteen (13) conveyors	8.42	4.37	-	-	-	-	-
Total	35.18	39.14	0.02	0.23	3.46	4.12	< than 10

The PM/PM₁₀ and HCL emissions for the two (2) Furnace lines and the Salt Furnace were calculated using the IDEM approved stack testing dated November 16, 2004.

- (a) This existing stationary source is not major for Emission Offset because the emissions of the nonattainment pollutant, volatile organic compounds (VOC), are less than one hundred (100) tons per year.
- (b) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are not counted toward the determination of PSD and Emission Offset applicability.

Federal Rule Applicability

326 IAC 12 and 40 CFR Part 60 (New Source Performance Standards – NSPS)

40 CFR 60, Subpart LL (Standards of Performance for Metallic Mineral Processing Plants) does not apply to this source because this source does not meet the definition of a metallic mineral processing plant. A metallic mineral processing plant produces metallic minerals concentrations from ore. The Permittee recycles magnesium that has already been through production.

326 IAC 12 and 40 CFR 60, Subpart UUU (Standards of Performance for Calciners and Dryers in Mineral Industries) does not apply to this source because this source does not meet the definition of a mineral processing plant. A metallic mineral processing plant produces metallic minerals concentrations from ore. The Permittee recycles magnesium that has already been through production.

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

326 IAC 20 and 40 CFR Part 63 (National Emissions Standards for Hazardous Air Pollutants - NESHAP)

40 CFR 63, Subpart TTTTT (Primary Magnesium Refining NESHAP) does not apply to this source because this source does not meet the definition of a primary magnesium refining facility. The Permittee recycles magnesium only, and does not produce magnesium metal or magnesium metal alloy.

40 CFR 63, Subpart CCC (NESHAP for Steel Pickling - HCl Process Facilities and Hydrochloric Acid Regeneration plants) does not apply to this source because this source does not meet the definition of a steel pickling processing plant. The Permittee recycles magnesium only, not steel, and does not perform a pickling process.

There are no other National Emissions Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 61 and 63) included in the permit for this source.

40 CFR 64 (Compliance Assurance Monitoring)

This source is a FESOP source and is not a major Part 70 source. Therefore, the requirements of 40 CFR Part 64 (Compliance Assurance Monitoring), are not included in this permit.

State Rule Applicability – Entire Source

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

This stationary source is not a major source for PSD purpose because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater and is not one of the 28 listed source categories.

326 IAC 2-6 (Emission Reporting)

This source is located in Madison County and it is not required to operate under a Part 70 Permit because the Permittee has taken limits under 326 IAC 2-8 (FESOP). Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

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

- (a) Opacity shall not exceed an average of forty percent (40%) 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 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of the salt furnace will be limited to emit less than 10 tons per year of a single HAP and the source emits less than 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-8 (FESOP)

This source shall use less than 3,322 tons process salt per twelve consecutive month period in the two (2) furnace lines (332 pounds of 10 percent Mg Cl₂ make-up process salt results in one pound of hydrogen chloride (HCl) emissions). This usage limit is required to limit the potential to emit of HCl to less than 8.04 tons per twelve (12) consecutive month period. The salt furnace shall not exceed their maximum capacity of 3,260 tons of process salt per twelve (12) consecutive months. Compliance with this limit makes the requirements of 326 IAC 2-7(Title V) and 326 IAC 2-4.1-1 (Major Sources of Hazardous Air Pollutants) not applicable.

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

(a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations, for Manufacturing Processes), the allowable PM emission rate from the two furnace lines and the salt furnace shall not exceed the allowable PM emission rate as follows, calculated using their maximum process weight rate:

Emission Unit	Process Weight Rate (tons/hr)	Emission Limit (lb/hr)
Each One (1) Furnace Line	5.28	12.5
Salt Furnace	0.372	2.1

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

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

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

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations, for Manufacturing Processes), the allowable PM emission rate from the two (2) electric resistance heaters (HTR-2110 and HTR 2210), one (1) shredder, two (2) casting conveyors, two (2) cooling conveyors, four (4) heater feed conveyors, one (1) shredder feed conveyor, one (1) shredder discharge conveyor, one (1) tramp iron removal magnet system, one (1) shuttle conveyor and four (4) feed storage bins shall not exceed the allowable PM emission rate as follows, calculated using their maximum process weight rate:

Emission Unit	Process Weight Rate (tons/hr)	Emission Limit (lb/hr)
two (2) electric resistance heaters (HTR-2110 and HTR 2210)	10.56	19.9
one (1) shredder	30	40
two (2) casting conveyors (total)	10.56	19.9
two (2) cooling conveyors (total)	10.56	19.9
four (4) heater feed conveyors (each)	5.28	12.5
one (1) shredder feed conveyor	30	40
one (1) shredder discharge conveyor	30	40
one (1) tramp iron removal magnet system	30	40
one (1) shuttle conveyor	30	40
Four (4) feed storage bins	7.05	15.17

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

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

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

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

The five (5) natural gas space heaters, with a total maximum heat capacity of 8 MMBtu, two (2) natural gas tool heaters with a maximum heat capacity of 0.5 MMBtu each, and two (2) natural gas mold heaters with a maximum heat capacity of 0.2 MMBtu each with no unit identifications, all constructed after September 21, 1983, must comply with the requirements of 326 IAC 6-2-4. The emission limitations are based on the following equation given in 326 IAC 6-4-2

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

where:

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

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

The heat input capacity of the natural gas heaters is 9.4 MMBtu/hr total.

$$Pt = 1.09/(9.4)^{0.26} = 0.61 \text{ lb/MMBtu heat input.}$$

Pursuant to 326 IAC 6-2-4(a), for Q less than ten (10) MMBtu/hr, Pt shall not exceed 0.6. Therefore, the particulate matter emissions from the natural gas heaters is limited to 0.6 pound per MMBtu heat input total.

Testing Requirements

Compliance stack tests were performed for PM and PM₁₀ emissions from one (1) of the two (2) furnace lines and the salt furnace at this source on March 13, 2004 and March 12, 2004, respectively. Both tests were determined to be acceptable to IDEM, OAQ, and the Anderson Office of Air Management, and the emission units were found to be in compliance with 326 IAC 6-3-2 and 326 IAC 2-8. PM and PM₁₀ testing is required on one (1) of the two (2) furnace lines and the salt furnace once every five (5) years, and the next tests must be completed prior to March 13, 2014 and March 12, 2014, respectively.

Compliance stack tests were performed for hydrogen chloride (HCl) emissions from one (1) of the two (2) furnace lines and the salt furnace at this source on March 13, 2004 and March 12, 2004, respectively. Both tests were determined to be acceptable to IDEM, OAQ. The results of the stack test showed the two (2) furnace lines did produce HCl emissions. Therefore, testing is required on one (1) of the two (2) furnace lines and the salt furnace once every five (5) years, and the next tests must be completed prior to March 13, 2009 and March 12, 2009 respectively.

On June 19, 2006, Advanced Magnesium Alloys Corporation petitioned IDEM to skip the PM/PM₁₀ and HCl testing required for the current permit cycle. Advanced Magnesium Alloys stated that the test results were significantly below the permitted limits, and that no changes had been made to either facility. IDEM, OAQ has reviewed this request and will allow Advanced Magnesium Alloys Corporation to conduct their next PM/PM₁₀ performance test on the two (2) furnace lines and the salt furnace no later than March 12, 2014. This is because these emission units are uncontrolled and emitted at a rate less than 50% of their applicable limits during the last test. However, IDEM OAQ will not allow Advanced Magnesium Alloys to skip the HCl testing required on one (1) of the two (2) furnace lines and the salt furnace in their current permit. Although the processes are uncontrolled, the HCl emission rate during the last test was 79% of the permitted HCl limit. Therefore, Advanced Magnesium Alloys must conduct the HCl testing as required by their current operating permit.

Be aware the decision to allow Advanced Magnesium Alloys Corporation to skip the PM/PM₁₀ testing requirements in this permit is contingent upon Advanced Magnesium Alloys continuing to operate the units in the same manner as it was operated during the past test. Changes in how the units operated should be discussed with IDEM as these may necessitate further PM/PM₁₀ testing.

All testing shall be performed utilizing methods as approved by the Commissioner and conducted in accordance with Section C – Performance Testing.

Compliance Requirements

Permits issued under 326 IAC 2-8 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 2-8-4. 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 Section D

of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

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

1. The furnaces have applicable compliance monitoring conditions as specified below:

Visible emissions notations of the common stack exhaust (stack # 3) 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.

These monitoring conditions are necessary to ensure compliance with 326 IAC 2-8 (FESOP) and 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes).

Recommendation

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

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

A complete FESOP renewal application for the purposes of this review was received on November 4, 2005.

Conclusion

The operation of this scrap magnesium recycling facility shall be subject to the conditions of the attached proposed Renewal **FESOP No. F095-21966-00114**.

Appendix A: Emission Summary

Company Name: Advanced Magnesium Alloys Corporation

Address City IN Zip: 1820 E 32nd St., Anderson, Indiana 46013

Permit No: F095-21966-00114

Reviewer: Marcia Earl

Date: August 7, 2006

Uncontrolled Emissions

Emission Units	PM	PM10	SO2	VOC	CO	NOx	HAPS
Two (2) Furnace Lines	25.20	32.98					12.6
Salt Furnace	1.48	1.48					1.96
(5) Natural gas space heaters, (2) natural gas tool heaters, and (2) natural gas mold heaters	0.08	0.31	0.2	0.23	3.46	4.12	0.00
(2) Casting, (2) Cooling, (4) Heater Feed, (1) Shredder Feed, (1) Shredder Discharge, (1) Shredder Conveyor, (1) Shuttle (1) Tamp Iron Removal Magnet System total Conveyors	8.42	4.37					
Total	35.18	39.14	0.2	0.23	3.46	4.12	14.56

Controlled Emissions

Emission Units	PM	PM10	SO2	VOC	CO	NOx	HAPS
Two (2) Furnace Lines	25.20	32.98					< than 8.04
Salt Furnace	1.48	1.48					< than 1.96
(5) Natural gas space heaters, (2) natural gas tool heaters, and (2) natural gas mold heaters	0.08	0.31	0.2	0.23	3.46	4.12	0.00
(2) Casting, (2) Cooling, (4) Heater Feed, (1) Shredder Feed, (1) Shredder Discharge, (1) Shredder Conveyor, (1) Shuttle (1) Tamp Iron Removal Magnet System total Conveyors	8.42	4.37					
Total	35.18	39.14	0.2	0.23	3.46	4.12	< than 10 tpy single HAP and < than 25 tpy total HAPS

Note: Emission factors for the 2 furnace lines, and salt furnace were taken from the IDEM approved stack testing dated November 16, 2004.

Methodology

Emission rate (lbs/hr) / Average Operating rate (lbs/hr) X Maximum Operating rate (lbs/hr) X 8760 (hr/yr) / 2000 (lbs/ton) = Emission (tons/yr)

Appendix A: HCl Emission Calculations

Company Name: Advances Magnesium Alloys Corporation
Address City IN Zip: 1820 E 32nd St., Anderson, Indiana 46013
Permit No: 095-21966-00114
Reviewer: Marcia Earl
Date: August 7, 2006

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Salt Furnace

$0.33 \text{ lbs/hr HCl} / 550 \times 744 = 0.4464 \times 8760 / 2000 = 1.96 \text{ tons per year}$

Methodology

Average Measured Emission / Average Operating Rate during test X Maximum Operating Rate X hours per year =
lbs per year / 2000 lbs - tons per year.

2 Furnace Lines

The amount of HCl to be limited to the 2 furnace lines are (10 tons * - PTE HCl from the salt furnace)

*10 tons/yr - 1.96 tons/yr

= $8.04 \text{ tpy} \times 2000 \text{ lbs/ton}$

= $16,080 \text{ lbs/yr} / 4.84 \text{ lbs of HCl per ton of process salt}$

= tons of salt to be processed 3,322 per year.

Test results from IDEM approved stack test shows 4.84lbs HCl per ton of processed salt used.

* To remain under the Title V permit level limits for Hazardous Air Pollutant (HAP), the source has agreed to limit its single HAP to less than 10 tons per year.

Appendix A: Particulate Matter Emission Calculations

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Company Name: Advances Magnesium Alloys Corporation
Address City IN Zip: 1820 E 32nd St., Anderson, Indiana 46013
Permit No: F095-21966-00114
Reviewer: Marcia Earl
Date: August 7, 2006

The 2 furnace lines

$$\begin{aligned} & 2.11 \text{ lbs/hr} / 7743 \text{ lbs/hr} \times 10560 \text{ lbs/hr} \\ & = 2.877 \text{ lbs/hr} \times 8760 \text{ hrs/yr} \\ & = 25,208 \text{ lbs/yr} / 2000 \text{ lbs/ton} \\ & = 12.6 \text{ tons per year (per furnace line)} \end{aligned}$$

Salt Furnace

$$\begin{aligned} & 0.25 \text{ lbs/hr} / 550 \text{ lbs/hr} \times 744 \text{ lbs/hr} \\ & = 0.338 \text{ lbs/hr} \times 8760 \text{ hrs/yr} \\ & = 29,624 \text{ lbs/yr} / 2000 \text{ lbs/ton} \\ & = 1.48 \text{ tons per year} \end{aligned}$$

Methodology

Average Measured Emission / Average Operating Rate during test x Maximum Operating Rate x hours per year = lbs per year / 2000lbs = tons per year.

Emission factors were taken from the IDEM approved stack testing dated November 16, 2004.

Appendix A: Conveyor Emission Calculations

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Company Name: Advances Magnesium Alloys Corporation
Address City IN Zip: 1820 E 32nd St., Anderson, Indiana 46013
Permit No: F095-21966-00114
Reviewer: Marcia Earl
Date: August 7, 2006

Factors represent uncontrolled emissions.

Based on weight of material transferred; applies to each loading or unloading operation and to each conveyor belt transfer point.

Based on AP 42 table 11.24-2 PM = 0.01 lb/ton and PM₁₀ = 0.004 lb/ton

- (2) Casting Conveyors Maximum throughput 21,120 lbs/hr total = 10.56 tons per hour
 $10.56 \text{ tons/hr} \times 0.01 \text{ lb/ton} = 0.1056 \text{ lbs/hr} \times 8760 = 925 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 0.463 \text{ tpy of PM}$
 $10.56 \text{ tons/hr} \times 0.004 \text{ lb/ton} = 0.0422 \text{ lbs/hr} \times 8760 = 370 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 1.185 \text{ tpy of PM}_{10}$
- (2) Cooling Conveyors Maximum throughput 21,120 lbs/hr total = 10.56 tons per hour
 $10.56 \text{ tons/hr} \times 0.01 \text{ lb/ton} = 0.1056 \text{ lbs/hr} \times 8760 = 925 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 0.463 \text{ tpy of PM}$
 $10.56 \text{ tons/hr} \times 0.04 \text{ lb/ton} = 0.0422 \text{ lbs/hr} \times 8760 = 370 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 0.185 \text{ tpy of PM}_{10}$
- (4) Heater Feed Conveyors Maximum throughput 10,560 lbs/hr each = 5.28 tons per hour each
 $5.28 \text{ tons/hr} \times 0.01 \text{ lb/ton} = 0.0528 \text{ lbs/hr} \times 8760 = 462 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 0.2313 \text{ tpy each}$
 $\times 4 \text{ conveyors} = 0.9252 \text{ tpy total}$
 $5.28 \text{ tons/hr} \times 0.004 \text{ lb/ton} = 0.02112 \text{ lbs/hr} \times 8760 = 185 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 0.0925 \text{ tpy each}$
 $\times 4 \text{ conveyors} = 0.37 \text{ tpy of PM}_{10} \text{ total}$
- (1) Shredder Feed Conveyor Maximum throughput 60,000 lbs/hr = 30 tons per hour
 $30 \text{ tons/hr} \times 0.01 \text{ lb/ton} = 0.3 \text{ lbs/hr} \times 8760 = 2,628 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 1.314 \text{ tpy of PM}$
 $30 \text{ tons/hr} \times 0.004 \text{ lb/ton} = 0.12 \text{ lbs/hr} \times 8760 = 1,051 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 0.526 \text{ tpy of PM}_{10}$
- (1) Shredder Conveyor Maximum throughput 60,000 lbs/hr = 30 tons per hour
 $30 \text{ tons/hr} \times 0.01 \text{ lb/ton} = 0.3 \text{ lbs/hr} \times 8760 = 2,628 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 1.314 \text{ tpy of PM}$
 $30 \text{ tons/hr} \times 0.004 \text{ lb/ton} = 0.12 \text{ lbs/hr} \times 8760 = 1,051 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 0.526 \text{ tpy of PM}_{10}$
- (1) Shredder Discharge Conveyor Maximum throughput 60,000 lbs/hr = 30 tons per hour
 $30 \text{ tons/hr} \times 0.01 \text{ lb/ton} = 0.3 \text{ lbs/hr} \times 8760 = 2,628 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 1.314 \text{ tpy of PM}$
 $30 \text{ tons/hr} \times 0.004 \text{ lb/ton} = 0.12 \text{ lbs/hr} \times 8760 = 1,051 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 0.526 \text{ tpy of PM}_{10}$
- (1) Tramp Iron Removal Discharge Conveyor Maximum throughput 60,000 lbs/hr = 30 tons per hour
 $30 \text{ tons/hr} \times 0.01 \text{ lb/ton} = 0.3 \text{ lbs/hr} \times 8760 = 2,628 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 1.314 \text{ tpy of PM}$
 $30 \text{ tons/hr} \times 0.004 \text{ lb/ton} = 0.12 \text{ lbs/hr} \times 8760 = 1,051 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 0.526 \text{ tpy of PM}_{10}$
- (1) Shuttle Conveyor / Maximum throughput 60,000 lbs/hr = 30 tons per hour
 $30 \text{ tons/hr} \times 0.01 \text{ lb/ton} = 0.3 \text{ lbs/hr} \times 8760 = 2,628 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 1.314 \text{ tpy of PM}$
 $30 \text{ tons/hr} \times 0.004 \text{ lb/ton} = 0.12 \text{ lbs/hr} \times 8760 = 1,051 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 0.526 \text{ tpy of PM}_{10}$

Total Uncontrolled Conveyor PM emissions 8.42 tpy

Total Uncontrolled Conveyor PM₁₀ emissions 4.37 tpy

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Small Industrial Boiler

natural gas space heaters, natural gas tool heaters, and natural gas mold heaters

Company Name: Advanced Magnesium Alloys Corporation

Address City IN Zip: 1820 E 32nd St., Anderson, Indiana 46013

Permit No: F095-21966-00114

Reviewer: AKY/MLE

Date: August 7, 2006

Heat Input Capacity

MMBtu/hr

Potential Throughput

MMCF/yr

9.4

82.3

Pollutant

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.08	0.31	0.02	4.12	0.23	3.46

*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

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boiler****natural gas space heaters, natural gas tool heaters, and natural gas mold heaters****HAPs Emissions****Company Name: Advanced Magnesium Alloys Corporation****Address City IN Zip: 1820 E 32nd St., Anderson, Indiana 46013****Permit No: F095-13751-00114****Reviewer: AKY/MLE****Date: August 7, 2006****HAPs - Organics**

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	8.646E-05	4.941E-05	3.088E-03	7.411E-02	1.400E-04

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	2.059E-05	4.529E-05	5.764E-05	1.565E-05	8.646E-05

Methodology is the same as page 3.

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