



Environmental
Protection Agency

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

12/8/2010

CHRIS KISER
MAGNESIUM REFINING TECHNOLOGIES INC
29695 Pettibone Rd
Glenwillow, OH 44139

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0372010227
Permit Number: P0106151
Permit Type: Initial Installation
County: Sandusky

Certified Mail

Yes	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Kevin Boyce," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hard ship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

If you have any questions, please contact Ohio EPA DAPC, Northwest District Office at (419)352-8461 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPC Web page, www.epa.ohio.gov/dapc, by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-NWDO



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
MAGNESIUM REFINING TECHNOLOGIES INC**

Facility ID: 0372010227
Permit Number: P0106151
Permit Type: Initial Installation
Issued: 12/8/2010
Effective: 12/8/2010
Expiration: 3/2/2019



Division of Air Pollution Control
Permit-to-Install and Operate
for
MAGNESIUM REFINING TECHNOLOGIES INC

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Authorization

Facility ID: 0372010227

Application Number(s): M0000760

Permit Number: P0106151

Permit Description: Administrative modification to make permit better reflect current operating conditions, remove fugitive PE and HCl limits, change PE limit based on 100% capture efficiency of baghouse and change emissions units ID's

Permit Type: Initial Installation

Permit Fee: \$500.00

Issue Date: 12/8/2010

Effective Date: 12/8/2010

Expiration Date: 3/2/2019

Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

MAGNESIUM REFINING TECHNOLOGIES INC
301 SANDUSKY COUNTY RD 177
BELLEVUE, OH 44881

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

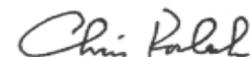
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402
(419)352-8461

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Chris Korleski
Director



Authorization (continued)

Permit Number: P0106151
Permit Description: Administrative modification to make permit better reflect current operating conditions, remove fugitive PE and HCl limits, change PE limit based on 100% capture efficiency of baghouse and change emissions units ID's

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Group Name: Melters A&B

Emissions Unit ID:	P002
Company Equipment ID:	Melter A
Superseded Permit Number:	03-13824
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P003
Company Equipment ID:	Melter B
Superseded Permit Number:	03-13824
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Ohio EPA DAPC, Northwest District Office in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed

permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting¹ a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated

¹ Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

B. Facility-Wide Terms and Conditions

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.

C. Emissions Unit Terms and Conditions

1. Emissions Unit Group - Melters A&B: P002, P003,

EU ID	Operations, Property and/or Equipment Description
P002	18,000 lb natural gas fired crucible magnesium melt furnace A
P003	18,000 lb natural gas fired crucible magnesium melt furnace B

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. b)(1)d., d)(1), d)(2), d)(3), d)(4) and e)(4).

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05 (A)(3)	See b)(2)a. <u>Combined for emissions units P002 and P003:</u> Particulate emissions (PE) shall not exceed 22.5 tons per year (tpy), combined. <u>From each emissions unit individually:</u> PE shall not exceed 0.007 grains per dry standard cubic feet (gr/dscf). Hydrogen chloride (HCl) emissions shall not exceed 0.5 lb/hr and 2.2 tpy. Nitrogen oxide (NOx) emissions shall not exceed 3.75 lbs/hr and 16.43 tpy.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Carbon monoxide (CO) emissions shall not exceed 2.1 lbs/hr and 9.2 tpy. Visible PE from the baghouse shall not exceed 3 percent opacity as a six-minute average.
b.	OAC rule 3745-17-11(B)	See b)(2)b.
c.	OAC rule 3745-17-07(A)	See b)(2)b.
d.	OAC rule 3745-114-01(A) ORC 3704.03(F)	See d)(1) through d)(4) and e)(4).

(2) Additional Terms and Conditions

- a. "Best Available Technology" (BAT) requirements for these emissions unit has been determined to be:
 - i. For PE,
 - (a) the use of a baghouse achieving a maximum outlet concentration of 0.007 gr/dscf and a 100% capture efficiency; and
 - ii. For HCl,
 - (a) the use of pre-coated aluminum silicate bags and a continuous aluminum silicate feed system to the baghouse achieving a 90% removal efficiency.

BAT requirements also include compliance with the terms and conditions of this permit.
- b. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

- (1) The feed rate of aluminum silicate, in pounds per hour, to the baghouse control system shall be maintained at a value not less than 11.90 pounds per hour.
- (2) The permittee shall initiate and complete the baghouse cleaning cycle once every 24 hours of operation.
- (3) The permittee shall limit the entire cleaning cycle for the baghouse, from start to finish, to 30 minutes during all hours of operation. Extended cleaning cycles shall be conducted as necessary during process shutdowns.
- (4) The permittee shall, at the beginning of each cleaning cycle, reduce the airflow to 10% of the normal flow through the baghouse.

- (5) The permittee shall cover both crucibles with flux to control burning during the cleaning operation.
 - (6) The permittee shall clean the bags in the baghouse using the high volume low pressure reverse air-cleaning system and sonic vibration horns.
 - (7) The permittee shall only use Class 1, Clean Magnesium Scrap (clean scrap), dross ingot chunks (consisting of clean magnesium dye casting residues and clean painted castings) and/or upgraded crusher material at this facility. Class 1, clean scrap is described as:
 - a. free from paint, dirt, and grease;
 - b. dry and must not include water;
 - c. does not present an abnormally high level of oxidation;
 - d. free of floor sweepings, drippings, dross sludge, and flux residues;
 - e. free of radioactive materials;
 - f. free from extraneous materials and other metals and alloys, including but without limiting the generality of foregoing:
 - i. combustible material;
 - ii. foreign metallic materials (steel, copper, etc.);
 - iii. closed pressurized vessels and containers such as lighters, fire extinguishers, aerosol bottles;
 - iv. flammable materials or containers which may have contained such materials, and;
 - v. plastic or metallic inserts in magnesium parts.
- d) **Monitoring and/or Recordkeeping Requirements**
- (1) The PTIO application for these emissions units, P002 and P003, was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
- i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
- $$\text{TLV}/10 \times 8/X \times 5/Y = 4 \text{ TLV}/XY = \text{MAGLC}$$
- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):
- i. Pollutant: HCl
TLV (mg/m³): 5.50
Maximum Hourly Emission Rate (lbs/hr): 1.0
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 7.26
MAGLC (ug/m³): 130.95
 - ii. Pollutant: MgO
TLV (mg/m³): 10
Maximum Hourly Emission Rate (lbs/hr): 5.14
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 37.17
MAGLC (ug/m³): 238

The permittee, has demonstrated that emissions of HCl and MgO, from emissions units P002 and P003, are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (2) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).
 - d. If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.
- (3) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and

- d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (4) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
 - (5) For purposes of determining the aluminum silicate feed rate to the baghouse control system, the permittee shall collect and record the following information each time the baghouse control system is replenished with aluminum silicate:
 - a. the amount of aluminum silicate placed into the system feed hopper, in pounds;
 - b. the total number of hours of operation of the baghouse control system since the aluminum silicate feed hoppers was last filled;
 - c. the average hourly aluminum silicate feed rate to the baghouse control system i.e., (a)/(b), in pounds per hour (average).
 - (6) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse during operation of this emissions unit. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop, in inches of water, across the baghouse every six (6) hours of operation.

Whenever the monitored value for the pressure drop deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the pressure drop reading immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The acceptable range for the pressure drop across the baghouse is 1 to 10 inches of water.

This range is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the range based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the range will not constitute a modification or relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (7) The permittee shall maintain the following records for each baghouse cleaning cycle:
 - a. hours of operation between baghouse cleaning cycles;
 - b. the length of time for each cleaning cycle, in minutes;
 - c. the differential pressure across the baghouse after completion of each cleaning cycle;
 - d. the amount of aluminum silicate (pre-coat) fed to the baghouse, in lbs/hr; and
 - e. at the beginning of each cleaning cycle, the percent reduction in air flow through the baghouse.

- (8) The permittee shall maintain daily records that document any time periods when:
 - a. crucibles were not covered with flux to control burning during the cleaning operation;
 - b. the bags in the baghouse were not cleaned using the high volume low pressure reverse air-cleaning system; and
 - c. the permittee uses any material other than Class 1, Clean Magnesium Scrap, dross ingot chunks and/or upgraded crusher material. The permittee shall maintain a record of the type and quantity of material melted in this emissions unit.

e) Reporting Requirements

- (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

- (2) The permittee shall identify in the annual permit evaluation report the following information during the 12-month reporting period for these emissions units:

- a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
 - b. any period of time (start time and date, and end time and date) when the emissions units were in operation and the process emissions were not vented to the baghouse;
 - c. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken;
 - e. each incident of deviation described in "a" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
 - f. any time period when the feed rate of aluminum silicate to the baghouse control system was below 11.90 pounds per hour;
 - g. any baghouse cleaning cycle which lasted more than thirty minutes;
 - h. any day during which the baghouse was not cleaned at least once every 24 hours of operation;
 - i. any time when the perlite feed hopper was not checked and replenished following the completion of the cleaning cycle;
 - j. any time when the crucibles were not covered with flux to control burning during the cleaning operation;
 - k. any time the bags in the baghouse were not cleaned using the high volume low pressure reverse air-cleaning system and sonic vibration horns; and
 - l. any time when a material other than Class I, Clean Magnesium Scrap, dross ingot chunks and/or upgraded crusher material were used in these emissions units.
- (3) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.
- f) Testing Requirements
- (1) Compliance with the emission limitation(s) in section b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:
0.007 grains PE/dscf

Applicable Compliance Method:

This emission limitation was established to comply with the state acceptable incremental impact for PM₁₀, and the company showed compliance with the limitation during a January 27-29, 2009 stack test. The limitation is more stringent than the limitation established in the National Emission Standards for Hazardous Air Pollutants for Secondary Nonferrous Metal Processing Industry (40 CFR Part 63, Subpart TTTTTT). If required, the permittee shall demonstrate compliance with this limitation through emission testing using Methods 1-5 of 40 CFR Part 60, Appendix A.

- b. Emission Limitation:
PE shall not exceed 22.5 tpy, combined with P003.

Applicable Compliance Method:

The ton/year limitation was established by multiplying the outlet grain loading by a maximum volumetric air flow of 85,600 acfm, applying the appropriate conversion factors of 7000 grains/lb, 1 dscf/1acfm, and 60 minutes/hr and multiplying by 8760 hrs/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the outlet grain loading limitation, compliance with the annual limitation shall also be demonstrated.

- c. Emission Limitation:
HCl emissions shall not exceed 0.5 lb/hr and 2.20 tpy.

Applicable Compliance Method:

The 0.5 lb/hr limitation is based on the emissions unit's potential to emit. The potential to emit is based on a March 6-8, 2002 stack test. Therefore, no record keeping, deviation reporting, or compliance method calculations are required to demonstrate compliance. If required, compliance with the hourly HCl limitation shall be determined in accordance with the test methods and procedures in 40 CFR Part 60, Appendix A, Methods 1-4 and Method 26.

The ton per year limitation was developed by multiplying the lb/hr limitation by a maximum operating schedule of 8,760 hour per year and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance with the annual limitation shall also be demonstrated.

- d. Emission Limitation:
NO_x emissions shall not exceed 3.75 lbs/hr and 16.43 tpy.

Applicable Compliance Method:

The permittee shall demonstrate compliance by multiplying an emission factor of 2.5 lbs NO_x/ton of magnesium produced (FIRE 6.23 Data System, released Oct 2000 - SCC Code 304000601) by the maximum furnace capacity of 1.5 tons/hr. If required, compliance with the hourly NO_x limitation shall be determined in accordance with the test methods and procedures in 40 CFR Part 60, Appendix A, Methods 1-4 and Method 7.

The ton per year limitation was developed by multiplying the lb/hr limitation by a maximum operating schedule of 8,760 hours per year and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance with the annual limitation shall also be demonstrated.

e. Emission Limitation:

CO emissions shall not exceed 2.1 lbs/hr and 9.2 tpy.

Applicable Compliance Method:

The permittee shall demonstrate compliance by multiplying an emission factor of 1.4 lbs CO/ton of magnesium produced (Table 4.1-3 from Background Report for AP-42 Section 12.12, 11/94) by the maximum furnace capacity of 1.5 tons/hr. If required, compliance with the hourly CO limitation shall be determined in accordance with the test methods and procedures in 40 CFR Part 60, Appendix A, Methods 1-4 and Method 10.

The ton per year limitation was developed by multiplying the lb/hr limitation by a maximum operating schedule of 8,760 hours per year and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance with the annual limitation shall also be demonstrated.

f. Emission Limitation:

Visible particulate emissions from the baghouse shall not exceed 3 percent opacity as a six-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance in accordance with USEPA Reference Method 9 of 40 CFR Part 60, Appendix A.

g) Miscellaneous Requirements

- (1) The permittee is advised that this facility may be subject to the "Generally Available Control Technology" (GACT) requirements under 40 CFR Part 63, Subpart TTTTTT (National Emission Standards for Hazardous Air Pollutants for Source Category: Secondary Nonferrous Metals Processing Industry.) The U.S. EPA is responsible for the administration of the requirements of this rule at this time.

It should be noted that the enforcement authority of the GACT requirements is not delegated to Ohio EPA at the time of this permit processing. The complete requirements of this rule (including the Part 63 General Provisions) may be accessed via the Internet from the Electronic code of Federal Regulations (e-CFR) website <http://www.ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA District Office of local air agency.