



Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

4/28/2011

Mr. Jeffrey Schroeder
MINTEQ INTERNATIONAL, INC.
719 E. Hight St.
Bryan, OH 43506

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

Facility ID: 0386010028
Permit Number: P0107352
Permit Type: Renewal
County: Williams

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	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 Josh Mandel," 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 hardship. 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
MINTEQ INTERNATIONAL, INC.**

Facility ID:	0386010028
Permit Number:	P0107352
Permit Type:	Renewal
Issued:	4/28/2011
Effective:	4/28/2011
Expiration:	5/13/2019



Division of Air Pollution Control
Permit-to-Install and Operate
for
MINTEQ INTERNATIONAL, INC.

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Authorization

Facility ID: 0386010028
Application Number(s): A0040917
Permit Number: P0107352
Permit Description: Administrative modification to permits issued to emission units P007 and P009 to address a change in the dust collection systems associated with these emissions units and resulting change in permit allowables associated with the different collection systems.
Permit Type: Renewal
Permit Fee: \$0.00
Issue Date: 4/28/2011
Effective Date: 4/28/2011
Expiration Date: 5/13/2019
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

MINTEQ INTERNATIONAL, INC.
719 E. HIGH ST.
BRYAN, OH 43506

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

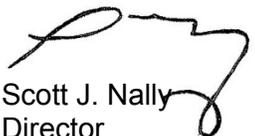
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

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


Scott J. Nally
Director



Authorization (continued)

Permit Number: P0107352
Permit Description: Administrative modification to permits issued to emission units P007 and P009 to address a change in the dust collection systems associated with these emissions units and resulting change in permit allowables associated with the different collection systems.

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

Emissions Unit ID:	P007
Company Equipment ID:	Raymond Mill System (Pulverizer)
Superseded Permit Number:	03-16168
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P009
Company Equipment ID:	MgO Crushing Circuit
Superseded Permit Number:	P0105553
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.

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).

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 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. P007, Raymond Mill System (Pulverizer)

Operations, Property and/or Equipment Description:

Magnesia milling process including feed bins, raymond mill and transfer bins controlled by the FlexKleen dust collection system and 4 storage bins controlled by BV329 and BV337.

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)c.

(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 operation(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 are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Table with 2 columns: Applicable Rules/Requirements and Applicable Emissions Limitations/Control Measures. Row a: OAC rule 3745-31-05(F) with detailed emission limitations for PM10 and storage bin operations.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Visible PE from the stacks serving BV329 and BV337 shall not exceed 5% opacity, as a six-minute average. See b)(2)a.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	See b)(2)c.
c.	OAC rule 3745-31-05(A)(3), as effective 12/1/2006	See b)(2)d.
d.	OAC rule 3745-17-11(B)	See b)(2)e.
e.	OAC rule 3745-17-07 (A)	See b)(2)f.

(2) Additional Terms and Conditions

- a. This permit establishes the following legally and practically enforceable emission limitations for the purpose of limiting potential to emit (PTE). The legally and practically enforceable emission limitations are voluntary restrictions established under OAC rule 3745-31-05(F) and are based on the operational restrictions contained in c)(1) which require control equipment:
 - i. combined emission limitations for emission units P007 and P009 of 1.80 pounds PM10/hour and 7.85 tons PM10/year for emissions from the FlexKleen DC control system;
 - ii. visible PE from the stack serving the FlexKleen DC control system shall not exceed 5% opacity, as a six-minute average;
 - iii. limitations for emissions unit P007 storage bin operations of 0.34 pound PM10/hour and 1.48 tons PM10/year for emissions from BV329 and BV337; and
 - iv. visible PE from the stack serving the BV329 and BV337 shall not exceed 5% opacity, as a six-minute average.

All emissions of particulate matter from the FlexKleen DC control system BV329, and BV337 are PM10.

- b. Emissions of PM10 from emission units P007 and P009 are generated by the operations and emitted from the control system/egress points as indicated in the following table:

Emissions Unit	Emissions Generating Operation	Control System/Egress Point	Emission Limitation(s)
P007	feed bins	FlexKleen DC control system	From FlexKleen DC control system for emissions units P007 & P009 combined: 1.80 lbs PM10/hr;

	Raymond mill		7.85 tons PM10/yr; Visible PE) from the stack serving the FlexKleen DC control system shall not exceed 5% opacity, as a 6-min average.
	pulverizing transfer bin		
	4 storage bins	BV329 (Bin #1) & BV337 (Bin #2, Bin #3, and Bin #4)	<u>From BV329 and BV337 for emission units P007:</u> 0.34 lb PM10/hr; 1.49 tons PM10/yr; Visible particulate emissions (PE) from the stack serving BV329 and BV337 shall not exceed 5% opacity, as a six-minute average.
P009	conveyor belt	FlexKleen DC control system	<u>From FlexKleen DC control system for emissions units P007 & P009 combined:</u> 1.80 lbs PM10/hr; 7.85 tons PM10/yr; Visible PE) from the stack serving the FlexKleen DC control system shall not exceed 5% opacity, as a 6-min average.
	8 screw conveyors		
	2 bucket elevators		
	2 screens		
	dry magnesia crusher		
	12 individual bin vents (see emissions unit P009)	12 individual bin vent filters (see emissions unit P009)	12 individual bin vent limitations (see emissions unit P009)

- c. Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3), as effective 11/30/01 have been determined to be compliance with the voluntary restrictions established in accordance with OAC rule 3745-31-05(F) [see b)(2)a].

It should be noted that the voluntary restrictions were also established with the intentional purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3), as effective 12/01/06 [see b)(2)d].

The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

It should be noted that the requirements established pursuant to OAC rule 3745-31-05(F) will remain applicable after the above SIP revisions are approved by U.S. EPA.

- d. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the PM10 emissions from this air contaminant source since the controlled potential to emit (PTE) is less than 10 tons per year taking into consideration practically and legally enforceable voluntary restrictions established under OAC rule 3745-31-05(F) in this permit.

- e. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to the voluntary restrictions and BAT requirements established in this permit [see b)(2)c.].
- f. The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to the voluntary restrictions and BAT requirements established in this permit [see b)(2)c.].

c) Operational Restrictions

- (1) The following operational restrictions has been included in this permit for the purpose of establishing legally and practically enforceable requirements which limit PTE [see b)(2)a.]:
- a. the FlexKleen DC control system controlling emission unit operations as identified in b)(2)b. shall achieve a maximum outlet concentration of 0.01 gr/dscf for PM10;
- b. BV329 and BV337 controlling storage bin operations (Bin #1 through Bin #4) as identified in b)(2)b. shall achieve a maximum outlet concentration of 0.02 gr/dscf for PM10.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving the FlexKleen DC control system and the stacks serving BV329 and BV337. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
- b. whether the emissions are representative of normal operations; and
- c. any corrective actions taken to minimize or eliminate the visible emissions.

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.

The permittee shall additionally identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in term number d)(1) above:

- a. all days during which any visible particulate emissions were observed from:
- i. the stack serving the FlexKleen DC control system; and
 - ii. the stack serving BV329 and BV337.
- b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

The above information shall be provided as an attachment to the PER. If there were no day(s) and/or corrective action(s) to identify as required above, the permittee shall indicate within the "Additional Information and Corrections" section of the PER that no visible emissions were observed and no corrective actions were taken.

f) Testing Requirements

- (1) Compliance with the emission limitations in section b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation:
0.01 gr PM10/dscf from the FlexKleen DC control system

Applicable Compliance Method:

The emission limitation was established in accordance with the manufacturer's baghouse specifications. If required, the permittee shall demonstrate compliance with the maximum outlet concentration by testing in accordance with Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- b. Emission Limitation:
1.80 pounds PM10/hour for emissions from the FlexKleen DC control system;

Applicable Compliance Method:

The hourly limitation was established by multiplying the maximum outlet grain loading concentration of 0.01 gr PM10/dscf and the maximum volumetric air flow rate (20,900 acfm) for the FlexKleen DC control system, and using the following conversion factors in order to convert to pounds per hour: 1 pound/7000 grains and 60 minutes/hour. If required, the permittee shall demonstrate compliance by

testing in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

c. Emission Limitation:

7.85 tons PM10/year for emissions from the FlexKleen DC control system

Applicable Compliance Method:

The annual limitation was established by applying the emission limitation of 0.01 gr PM10/dscf to a total maximum volumetric air flow rate of 20,900 dry standard cubic foot per minute (dscfm) from the FlexKleen DC control system and applying the conversion factors of 7000 gr/pound, 60 minutes/hour, 8760 hours/year and 2000 lbs/ton.

Therefore, provided compliance is shown with the maximum outlet concentration of 0.01 gr PM10/dscf, compliance with the annual emission limitation shall also be demonstrated. If required a demonstration of the volumetric air flow rate(s) shall be performed in accordance with USEPA Methods 1 through 4 of 40 CFR 60, Appendix A.

d. Emission Limitation:

Visible particulate emissions (PE) from the stack serving the FlexKleen DC control system shall not exceed 5% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined in accordance with USEPA Method 9 of 40 CFR 60, Appendix A.

e. Emission Limitation:

0.02 gr PM10/dscf from BV329 and BV337

Applicable Compliance Method:

The emission limitation was established in accordance with the manufacturer's baghouse specifications. If required, the permittee shall demonstrate compliance with the maximum outlet concentration by testing in accordance with Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

f. Emission Limitation:

0.34 pound PM10/hour for emissions from BV329 and BV337

Applicable Compliance Method:

The hourly limitation was established by multiplying the maximum outlet grain loading concentration of 0.02 gr PM10/dscf and the maximum volumetric air flow rate (2,000 acfm) for BV329 and BV337, and using the following conversion factors in order to convert to pounds per hour: 1 pound/7000 grains and 60 minutes/hour. If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- g. Emission Limitation:
1.49 tons PM10/year for emissions from BV329 and BV337

Applicable Compliance Method:

The annual limitation was established by applying the emission limitation of 0.02 gr PM10/dscf to a total maximum volumetric air flow rate of 2,000 dry standard cubic foot per minute (dscfm) from BV329 and BV337 and applying the conversion factors of 7000 gr/pound, 60 minutes/hour, 8760 hours/year and 2000 lbs/ton.

Therefore, provided compliance is shown with the maximum outlet concentration of 0.02 gr PM10/dscf, compliance with the annual emission limitation shall also be demonstrated. If required a demonstration of the volumetric air flow rate(s) shall be performed in accordance with USEPA Methods 1 through 4 of 40 CFR 60, Appendix A.

- h. Emission Limitation:
Visible particulate emissions (PE) from the stack serving BV329 and BV337 shall not exceed 5% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined in accordance with USEPA Method 9 of 40 CFR 60, Appendix A.

g) Miscellaneous Requirements

- (1) None.



2. P009, MgO Crushing Circuit

Operations, Property and/or Equipment Description:

MgO processing operation including material storage, transfer, crushing & screening, equipment controlled by Flexkleen dust collector and 12 storage bins controlled by small passive bin vent filters.

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)c.

(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 operation(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 are identified below. 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(F)	<u>Combined emission limitation for emission units P007 and P009:</u> 1.80 pounds particulate matter less than or equal to 10 microns (PM10)/hour and 7.89 tons PM10/year for emissions from the FlexKleen DC control system; Visible particulate emissions (PE) from the stack serving the FlexKleen DC control system shall not exceed 5% opacity, as a six-minute average. <u>Emission limitations for storage bin operations for emissions unit P009:</u> 0.004 pound PM10/hour and 0.02 ton PM10/year for emissions from each



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		individual storage bin vent; Visible PE from each individual storage bin vent shall not exceed 5% opacity, as a six-minute average. See b)(2)a.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	See b)(2)c.
c.	OAC rule 3745-31-05(A)(3), as effective 12/1/2006	See b)(2)d.
d.	OAC rule 3745-17-11(B)	See b)(2)e.
	OAC rule 3745-17-07 (A)	See b)(2)f.

(2) Additional Terms and Conditions

- a. This permit establishes the following legally and practically enforceable emission limitations for the purpose of limiting potential to emit (PTE). The legally and practically enforceable emission limitations are voluntary restrictions established under OAC rule 3745-31-05(F) and are based on the operational restrictions contained in c)(1) which require control equipment:
- i. combined emission limitations for emission units P007 and P009 of 1.80 pounds PM10/hour and 7.85 tons PM10/year for emissions from the FlexKleen DC control system;
 - ii. visible PE from the stack serving the FlexKleen DC control system shall not exceed 5% opacity, as a six-minute average.
 - iii. limitations for emissions unit P009 storage bin operations of 0.004 pound PM10/hour and 0.02 ton PM10/year for emissions from each individual storage bin vent;
 - iv. visible PE from each individual storage bin vent shall not exceed 5% opacity, as a six-minute average.

All emissions of particulate matter from the FlexKleen DC and the storage bin vents are PM10.

- b. Emissions of PM10 from emission units P007 and P009 are generated by the operations and emitted from the control system/egress points as indicated in the following table:

Emissions Unit	Emissions Generating Operation	Control System/Egress Point	Emission Limitation(s)
P007	feed bins	FlexKleen DC control system	<u>From FlexKleen DC control system for emissions units P007 & P009 combined:</u>

	Raymond mill		1.80 lbs PM10/hr; 7.85 tons PM10/yr; Visible PE) from the stack serving the FlexKleen DC control system shall not exceed 5% opacity, as a 6-min average.
	pulverizing transfer bin		
	4 storage bins (see emissions unit P007)	BV329 and BV337 (see emissions unit P007)	Emission limitation BV329 and BV337(see emissions unit P007)
P009	conveyor belt	FlexKleen DC control system	<u>From FlexKleen DC control system for emissions units P007 & P009 combined:</u> 1.80 lbs PM10/hr; 7.85 tons PM10/yr; Visible PE from the stack serving the FlexKleen DC control system shall not exceed 5% opacity, as a 6-min average.
	8 screw conveyors		
	2 bucket elevators		
	2 screens		
	dry magnesia crusher		
	12 individual bin vents	12 individual bin vent filters	0.004 pound PM10/hr; 0.02 ton PM10/yr Visible PE from each individual storage bin vent shall not exceed 5% opacity, as a six-minute average.

- c. Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3), as effective 11/30/01 have been determined to be compliance with the voluntary restrictions established in accordance with OAC rule 3745-31-05(F) [see b)(2)a.].

It should be noted that the voluntary restrictions were also established with the intentional purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3), as effective 12/01/06 [see b)(2)d.].

The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

It should be noted that the requirements established pursuant to OAC rule 3745-31-05(F) will remain applicable after the above SIP revisions are approved by U.S. EPA.

- d. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the PM10 emissions from this air contaminant source since the controlled potential to emit (PTE) is less than 10 tons per year taking into consideration practically and legally enforceable voluntary restrictions established under OAC rule 3745-31-05(F) in this permit.

- e. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to the voluntary restrictions and BAT requirements established in this permit [see b)(2)c.].
- f. The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to the voluntary restrictions and BAT requirements established in this permit [see b)(2)c.].

c) **Operational Restrictions**

- (1) The following operational restrictions have been included in this permit for the purpose of establishing legally and practically enforceable requirements which limit PTE [see b)(2)a.]:
 - a. the FlexKleen DC control system controlling emission unit operations as identified in b)(2)b. shall achieve a maximum outlet concentration of 0.01 gr/dscf for PM10;
 - b. each individual bin vent filter (12 total individual bin vents) as identified in b)(2)b. shall achieve a maximum outlet concentration of 0.01 gr/dscf for PM10.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving the FlexKleen DC control system and each individual bin vent filter serving the 12 individual storage bins. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations; and
 - c. any corrective actions taken to minimize or eliminate the visible emissions.

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 additionally identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in term number d)(1) above:
 - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
 - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

The above information shall be provided as an attachment to the PER. If there were no day(s) and/or corrective action(s) to identify as required above, the permittee shall indicate within the "Additional Information and Corrections" section of the PER that no visible emissions were observed and no corrective actions were taken.

f) Testing Requirements

- (1) Compliance with the emission limitations in section b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:
 - a. Emission Limitation:
0.01 gr PM10/dscf from the FlexKleen DC control system

Applicable Compliance Method:
The emission limitation was established in accordance with the manufacturer's baghouse specifications. If required, the permittee shall demonstrate compliance with the maximum outlet concentration by testing in accordance with Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
 - b. Emission Limitation:
1.80 pounds PM10/hour for emissions from the FlexKleen DC control system;

Applicable Compliance Method:
The hourly limitation was established by multiplying the maximum outlet grain loading concentration of 0.01 gr PM10/dscf and the maximum volumetric air flow rate (20,900 acfm) for the FlexKleen DC control system, and using the following conversion factors in order to convert to pounds per hour: 1 pound/7000 grains and 60 minutes/hour. If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

- c. Emission Limitation:
7.85 tons PM10/year for emissions from the FlexKleen DC control system

Applicable Compliance Method:

The annual limitation was established by applying the emission limitation of 0.01 gr PM10/dscf to a total maximum volumetric air flow rate of 20,900 dry standard cubic foot per minute (dscfm) from the FlexKleen DC control system and applying the conversion factors of 7000 gr/pound, 60 minutes/hour, 8760 hours/year and 2000 lbs/ton.

Therefore, provided compliance is shown with the maximum outlet concentration of 0.01 gr PM10/dscf, compliance with the annual emission limitation shall also be demonstrated. If required a demonstration of the volumetric air flow rate(s) shall be performed in accordance with USEPA Methods 1 through 4 of 40 CFR 60, Appendix A.

- d. Emission Limitation:
Visible particulate emissions (PE) from the stack serving the FlexKleen DC control system shall not exceed 5% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined in accordance with USEPA Method 9 of 40 CFR 60, Appendix A.

- e. Emission Limitation:
0.01 gr PM10/dscf from each individual storage bin vent.

Applicable Compliance Method:

The emission limitation was established in accordance with the manufacturer's baghouse specifications. If required, the permittee shall demonstrate compliance with the maximum outlet concentration by testing in accordance with Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- f. Emission Limitation:
0.004 pound PM10/hour from each individual storage bin vent.

Applicable Compliance Method:

The hourly limitation was established by multiplying the maximum outlet grain loading concentration of 0.01 gr PM10/dscf and the maximum volumetric air flow rate (50 acfm) for each individual bin storage vent, and using the following conversion factors in order to covert to pounds per hour: 1 pound/7000 grains and 60 minutes/hour. If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

- g. Emission Limitation:
0.02 ton PM10/year for emissions from each individual storage bin vent.

Applicable Compliance Method:

The annual limitation was established by applying the emission limitation of 0.01 gr PM10/dscf to a total maximum volumetric air flow rate of 50 dry standard cubic foot per minute (dscfm) from each individual storage bin vent and applying the conversion factors of 7000 gr/pound, 60 minutes/hour, 8760 hours/year and 2000 lbs/ton.

Therefore, provided compliance is shown with the maximum outlet concentration of 0.01 gr PM10/dscf, compliance with the annual emission limitation shall also be demonstrated.

h. Emission Limitation:

Visible PE from each individual storage bin vent shall not exceed 5% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined in accordance with USEPA Method 9 of 40 CFR 60, Appendix A.

g) Miscellaneous Requirements

- (1) This permit supersedes the following permit actions issued for emissions unit P007; PTI 03-16168 issued 10/12/04 and Permit to Operate P0087802 issued 1/23/08. This permit also supersedes the following permit for emissions unit P009: PTIO P0105553 issued 12/2/09.