



Environmental Protection Agency

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

6/1/2012

MATTHEW PAINTER  
ALU CHEM OF JACKSON, INC.  
14782 BEAVER PIKE  
JACKSON, OH 45640

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 0640000005  
Permit Number: P0109243  
Permit Type: Initial Installation  
County: Jackson

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)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

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](http://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, Southeast District Office at (740)385-8501 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPCWeb page, [www.epa.ohio.gov/dapc](http://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-SEDO





**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
ALU CHEM OF JACKSON, INC.**

Facility ID:	0640000005
Permit Number:	P0109243
Permit Type:	Initial Installation
Issued:	6/1/2012
Effective:	6/1/2012
Expiration:	6/1/2022





Division of Air Pollution Control
Permit-to-Install and Operate
for
ALU CHEM OF JACKSON, INC.

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## Authorization

Facility ID: 0640000005  
Application Number(s): A0043469  
Permit Number: P0109243  
Permit Description: 1.55 TPH Ball Mill vented to a Baghouse and Tabular Alumina Kiln 2 with an elevator, cyclone, pre-kiln dryer and vertical shaft kiln vented to 3 baghouses.  
Permit Type: Initial Installation  
Permit Fee: \$1,000.00  
Issue Date: 6/1/2012  
Effective Date: 6/1/2012  
Expiration Date: 6/1/2022  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

ALU CHEM OF JACKSON, INC.  
14782 BEAVER PIKE  
Jackson, OH 45640

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

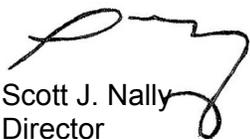
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Southeast District Office  
2195 Front Street  
Logan, OH 43138  
(740)385-8501

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: P0109243

Permit Description: 1.55 TPH Ball Mill vented to a Baghouse and Tabular Alumina Kiln 2 with an elevator, cyclone, pre-kiln dryer and vertical shaft kiln vented to 3 baghouses.

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

<b>Emissions Unit ID:</b>	<b>P901</b>
Company Equipment ID:	Kiln 2 BALL MILL
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P902</b>
Company Equipment ID:	Tabular Kiln 2
Superseded Permit Number:	
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, Southeast 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 submitting<sup>1</sup> 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.

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<sup>1</sup>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. P901, Kiln 2 Tube Mill

Operations, Property and/or Equipment Description:

1.55 TPH Tube Mill for Kiln 2, vented to a Baghouse (75% capture, 99.5% control)

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. None.

(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.	ORC 3704.03 (T)	<p><b><u>Stack Emissions:</u></b></p> <p>Particulate emissions (PE) from the baghouse stack shall not exceed 0.008 gr/dscf of exhaust gases.</p> <p><b><u>Fugitive Emissions:</u></b></p> <p>There shall be no visible fugitive PE from the Tube mill building egress points (i.e., building windows, doors, roof monitors, etc.).</p>
b.	OAC rule 3745-17-07(A)(1)(a)	Visible PE from the stack shall not exceed 20% opacity as a six-minute average.



c.	OAC rule 3745-17-11	The emissions limitation specified by this rule is less stringent than the emission limitations established pursuant to ORC 3704.03(T).
d.	OAC rule 3745-17-07(B)(1)	The emissions limitations specified by this rule is less stringent than the emission limitations established pursuant to ORC 3704.03(T).
e.	OAC rule 3745-17-08(B)	The permittee shall utilize reasonably available control measures that are sufficient to minimize or eliminate visible particulate emissions of fugitive dust.  See b)(2)a. below.

(2) Additional Terms and Conditions

- a. The permittee shall employ reasonably available control measures on this emissions unit for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee’s permit application, the permittee shall employ a capture system, which: includes enclosures that minimize or eliminate visible particulate emission of fugitive dust at the point of capture to the extent possible with good engineering design; and, vents the emissions to a baghouse that is capable of meeting the applicable requirements. In addition, in accordance with the permittee’s permit application the emissions unit shall be located inside of a building and the building egress points (doors, windows, vents, ...) shall be completely covered/closed at all times during operation, except when egress is necessary. The enclosure shall be designed, built, and operated so that the escape of fugitive dust from the enclosure is eliminated to ensure the above visible emissions limitation is met. Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance.
- b. The material handling operations that are covered by this permit are listed below:  
  - Tube Mill - 9 Material loading/transfer points
  - i. Load-in to Alumina feed hopper
  - ii. Screw feeder & Secondary feeder to bucket elevator A
  - iii. Bucket elevator A to Tube Mill
  - iv. Tube Mill and BH recycle to the bucket elevator B
  - v. Bucket elevator B to Sweco screen

- vi. Sweco screen to oversize hopper
  - vii. Sweco screen to screw feeder
  - viii. Screw feeder to screw feeder
  - ix. Screw feeder to ore elevator
- c. The emissions from this emissions unit shall be vented to a baghouse at all times the emissions unit is in operation.
- c) **Operational Restrictions**
- (1) The emissions from this emissions unit shall be vented to a baghouse with capture efficiency of at least 75% and a control efficiency of at least 99% at all times the emissions unit is in operation.
- 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 this emissions unit. 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 location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.
- If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the weekly check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.
- (2) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the enclosure egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive 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 location and the color of the emissions;
  - b. the total duration of any visible emission incident; and
  - c. any corrective actions taken to eliminate the visible emissions.
- (3) The acceptable range for the pressure drop across the baghouse shall be based upon the manufacturer's specifications, until such time as any required performance testing is conducted and an alternative pressure drop range and/or limit is established.
- (4) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The acceptable pressure drop shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range is established to demonstrate compliance.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. 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 in this permit, 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. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;

- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse 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 permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

e) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency 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. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitation:

PE from the Tube mill baghouse stack shall not exceed 0.008 gr/dscf of exhaust gases.

Applicable Compliance Method:

PE shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

b. Emissions Limitation:

Visible PE from the stack shall not exceed 20 % opacity as a six-minute average.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 9.

c. Emissions Limitation:

There shall be no visible fugitive PE from the Tube mill egress points (i.e., building windows, doors, roof monitors, etc.).

Applicable Compliance Method:

If required, visible emissions of fugitive dust shall be determined according to USEPA Method 22.

(2) The permittee shall conduct, or have conducted, emission testing in accordance with the following requirements:

- a. The emission testing shall be conducted within 90 days of startup of this emission unit.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable gr/dscf of exhaust gas for PE from the Tube Mill baghouse stack.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission rate(s):

Compliance with the stack PE limitation shall be determined in accordance with Test Methods 1 – 5 as set forth in “Appendix on Test Methods” in 40 CFR, Part 60 (“Standards of Performance for New Stationary Sources”).

- d. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- e. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility’s ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

- f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
  - g. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
  - h. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.
- g) **Miscellaneous Requirements**
- (1) None.



2. P902, Tabular Kiln 2

Operations, Property and/or Equipment Description:

Tabular Alumina Kiln 2 with an Elevator, Cyclone, Pre-Kiln 2.4 MMBtu Dryer and a 11.8 MMBtu 1.75 TPH Vertical Shaft Kiln vented to 3 baghouses (each rated at 70% capture & 99.5% control of PE)

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. g)(1)

(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.	ORC 3704.03 (T)	<p><b><u>Stack Emissions:</u></b></p> <p>Particulate emissions (PE) from the Shaft Kiln and Elevator baghouse stack shall not exceed 0.007 gr/dscf of exhaust gases.</p> <p>PE from the Dryer Fines baghouse stack shall not exceed 0.007 gr/dscf of exhaust gases.</p> <p>PE from the Dryer baghouse stack shall not exceed 0.007 gr/dscf of exhaust gases.</p> <p>Nitrogen Oxides emissions (NO<sub>x</sub>) from the Shaft Kiln and Elevator</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>baghousestack (11.8 MMBtu burner) shall not exceed 0.16 lb/MMBtu.</p> <p>NO<sub>x</sub> from the Dryer baghouse stack (2.4 MMBtuburner) shall not exceed 0.042 lb/MMBtu.</p> <p><b><u>Fugitive Emissions:</u></b></p> <p>There shall be no visible fugitive PE from the Tabular Kiln 2 process building egress points (i.e., building windows, doors, roof monitors / openings, etc.).</p> <p>See b)(2)b. below.</p>
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	<p><b><u>Stack Emissions:</u></b></p> <p>Carbon Monoxide (CO) emissions from the Shaft Kiln and Elevator baghouse stack shall not exceed 0.96 lb/hr and 4.2 TPY.</p> <p>CO emissions from the Dryer baghouse stack shall not exceed 0.04 lb/hr and 0.15 TPY.</p>
c.	OAC rule 3745-17-07(A)(1)(a)	Visible PE from the baghouse stacks shall not exceed 20% opacity as a six-minute average.
d.	OAC rule 3745-17-11 OAC rule 3745-17-07(B)(1) OAC rule 3745-18-06(E)(2)	The emissions limitations specified by this rule is less stringent than the emission limitations established pursuant to ORC 3704.03(T).
e.	OAC rule 3745-17-08(B)	<p>The permittee shall utilize reasonably available control measures that are sufficient to minimize or eliminate visible particulate emissions of fugitive dust.</p> <p>See b)(2)a. below.</p>
f.	OAC rule 3745-18-06	This Dryer emissions unit is exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(A) and (B).

(2) Additional Terms and Conditions

a. The permittee shall employ reasonably available control measures on this emissions unit for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee shall employ a capture system, which: includes enclosures that minimize or eliminate visible particulate emission of fugitive dust at the point of capture to the extent possible with good engineering design; and, vents the emissions to a baghouse that is capable of meeting the applicable requirements. In addition, in accordance with the permittee's permit application the emissions unit shall be located inside of a building and the building egress points (doors, windows, vents, ...) shall be completely covered/closed at all times during operation, except when egress is necessary. The enclosure shall be designed, built, and operated so that the escape of fugitive dust from the enclosure is eliminated to ensure the above visible emissions limitation is met. Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance.

b. The material handling operations that are covered by this permit are listed below:

Kiln 2 process - 14 Material loading – unloading / transfer points

- i. Load-in to the Kiln elevator
- ii. Kiln elevator to Dryer
- iii. Dryer fines to fines hopper 1
- iv. Load-in to the Shaft Kiln
- v. Shaft Kiln to discharge table
- vi. Discharge table to cooling bin
- vii. Cooling bin to finished ball hopper
- viii. Cooling bin to feeder
- ix. Feeder to screen
- x. Screen to fines hopper 2
- xi. Cyclone to bulk bag
- xii. Kiln & Elevator BH to bulk bag
- xiii. Dryer BH to bulk bag
- xiv. Fines BH to bulk bag

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.
- (2) The emissions from this emissions unit shall be vented to baghouse(s) with PE capture efficiency of at least 70% and a PE control efficiency of at least 99.5% at all times the emissions unit is in operation.

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 stacks serving this emissions unit. 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 location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the weekly check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (2) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the enclosure egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive 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. the total duration of any visible emission incident; and
  - c. any corrective actions taken to eliminate the visible emissions.

- (3) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- (4) The acceptable range for the pressure drop across the baghouse shall be based upon the manufacturer's specifications, until such time as any required performance testing is conducted and an alternative pressure drop range and/or limit is established.
- (5) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The acceptable pressure drop shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range is established to demonstrate compliance.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. 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 in this permit, 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. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;

- e. the pressure drop readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse 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 permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency 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. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emissions Limitations:
    - PE from the Shaft Kiln and Elevator baghouse stack shall not exceed 0.007 gr/dscf of exhaust gases.
    - PE from the Dryer Fines baghouse stack shall not exceed 0.007 gr/dscf of exhaust gases.
    - PE from the Dryer baghouse stack shall not exceed 0.007 gr/dscf of exhaust gases.

Applicable Compliance Method:

PE shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

b. Emissions Limitation:

NO<sub>x</sub> from the Shaft Kiln and Elevator baghouse stack (11.8 MMBtuburner) shall not exceed 0.16 lb/MMBtu.

Applicable Compliance Method:

This emissions limitation was established from 2010 company test data (0.16 lb-NO<sub>x</sub>/MMBtu) of the Shaft Kiln and Elevator burner (11.8 MMBtu/hr).

NO<sub>x</sub> emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

c. Emissions Limitation:

NO<sub>x</sub> from the Dryer baghouse stack (2.4 MMBtuburner) shall not exceed 0.042 lb/MMBtu

Applicable Compliance Method:

This emissions limitation was established from 2010 company test data (0.042 lb-NO<sub>x</sub>/MMBtu) of the Dryer burner (2.4 MMBtu/hr).

NO<sub>x</sub> emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

d. Emissions Limitation:

There shall be no visible fugitive PE from the Tabular Kiln 2 process building egress points (i.e., building windows, doors, roof monitors / openings, etc.).

Applicable Compliance Method:

Visible emissions of fugitive dust shall be determined according to USEPA Method 22.

e. Emissions Limitation:

Visible PE from the baghouse stacks shall not exceed 20% opacity as a six-minute average.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 9.

f. Emissions Limitation:

CO emissions from the Shaft Kiln and Elevator baghouse stack shall not exceed 0.96 lb/hr and 4.2 TPY.

Applicable Compliance Method:

The lb/hr emissions limitation was established by multiplying the emission factor from 2010 company test data (0.0812 lb CO/MMBtu) by the maximum rated capacity of P902, Shaft Kiln and Elevator (11.8 MMBtu/hr).

If required, carbon monoxide emissions shall be determined according to test Methods 1 - 4, and 10 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the annual emission limitation shall be demonstrated by utilizing a one-time worse case calculation. The emission factor from 2010 company test data (0.0812 lb CO/MMBtu/hr) multiplied by the maximum rated capacity of P902 (Shaft Kiln and Elevator burners, 11.8 MMBtu/hr) and 8,760 hours/year, then divided by 2,000 lbs/ton.

g. Emissions Limitation:

Emissions of CO from the Dryer stack shall not exceed 0.04 lb/hr and 0.15 TPY.

Applicable Compliance Method:

The lb/hr emissions limitation was established by multiplying the emission factor from 2010 company test data (0.0146 lb CO/MMBtu) by the maximum rated capacity of P902, Dryer (2.4 MMBtu/hr).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1-4 and 10 of 40 CFR Part 60, Appendix A.

Compliance with the annual emission limitation shall be demonstrated by utilizing a one-time worse case calculation. The emission factor from 2010 company test data (0.0146 lb CO/MMBtu/hr) multiplied by the maximum rated capacity of P902

(Dryer burners, 2.4 MMBtu/hr) and 8,760 hours/year, then divided by 2,000 lbs/ton.

- (2) The permittee shall conduct, or have conducted, emission testing in accordance with the following requirements:
- a. The emission testing shall be conducted within 90 days of startup of this emission unit.
  - b. The emission testing shall be conducted to demonstrate compliance with the allowable gr/dscf of exhaust gas for PE and lb/MMBtu NO<sub>x</sub> emission limitations from the Dryer baghouse stack and from the Shaft Kiln and Elevator baghouse stack, and the visible fugitive PE from the Tabular Kiln 2 process building egress points.
  - c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission rate(s):

Compliance with the stack PE and NO<sub>x</sub> limitations shall be determined in accordance with Test Methods 1 – 5 and 7 as set forth in “Appendix on Test Methods” in 40 CFR, Part 60 (“Standards of Performance for New Stationary Sources”).

Compliance with the visible fugitive PE from the Tabular Kiln 2 process building egress points shall be determined according to USEPA Method 22.
  - d. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
  - e. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
  - f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

- g. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- h. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

g) **Miscellaneous Requirements**

- (1) Modeling to demonstrate compliance with the "Toxic Air Contaminant Statute" in ORC 3704.03(F)(4)(b) was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittee's to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.