



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

6/23/2015

Mr. Timothy Anglin
BASF Corporation
120 PINE STREET
Elyria, OH 44035

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0247040195
Permit Number: P0115631
Permit Type: Initial Installation
County: Lorain

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	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

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
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

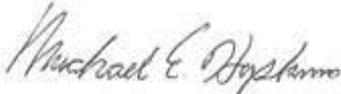
Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Ohio EPA DAPC, Northeast District Office at (330)963-1200 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

Cc: U.S. EPA
Ohio EPA-NEDO; Canada



FINAL

**Division of Air Pollution Control
Permit-to-Install
for
BASF Corporation**

Facility ID:	0247040195
Permit Number:	P0115631
Permit Type:	Initial Installation
Issued:	6/23/2015
Effective:	6/23/2015



Division of Air Pollution Control
Permit-to-Install
for
BASF Corporation

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Final Permit-to-Install
BASF Corporation
Permit Number: P0115631
Facility ID: 0247040195
Effective Date: 6/23/2015

Authorization

Facility ID: 0247040195
Facility Description: Manufacturer of Industrial Inorganic Catalysts
Application Number(s): A0049036
Permit Number: P0115631
Permit Description: First Permit to Install for process change to (P092) rotary calciner no. 6; and installation of (P130) #6 P&S dryer for impregnated extrudate material, (P131) Copper tablet precursor production; and (P132) Handling and bulk bagging of inorganic oxide powders.
Permit Type: Initial Installation
Permit Fee: \$2,200.00
Issue Date: 6/23/2015
Effective Date: 6/23/2015

This document constitutes issuance to:

BASF Corporation
120 PINE STREET
Elyria, OH 44035

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

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44087
(330)963-1200

The above named entity is hereby granted a Permit-to-Install for the 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 emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Craig W. Butler
Director



Authorization (continued)

Permit Number: P0115631

Permit Description: First Permit to Install for process change to (P092) rotary calciner no. 6; and installation of (P130) #6 P&S dryer for impregnated extrudate material, (P131)Copper tablet precursor production; and (P132) Handling and bulk bagging of inorganic oxide powders.

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

Emissions Unit ID:	P092
Company Equipment ID:	#6 Rotary Calciner (E-97)
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P130
Company Equipment ID:	#6 P&S Dryer (Building 27)
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P131
Company Equipment ID:	Copper Tablet Precursor Process
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P132
Company Equipment ID:	Powder Room
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



Final Permit-to-Install
BASF Corporation
Permit Number: P0115631
Facility ID: 0247040195
Effective Date:6/23/2015

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
- (1) Standard Term and Condition A.2.a), Severability Clause
 - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
 - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
 - (4) Standard Term and Condition A.9., Reporting Requirements
 - (5) Standard Term and Condition A.10., Applicability
 - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
 - (7) Standard Term and Condition A.14., Public Disclosure
 - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
 - (9) Standard Term and Condition A.16., Fees
 - (10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

- a) Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.

- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

4. Monitoring and Related Record Keeping and Reporting Requirements

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - (1) The date, place (as defined in the permit), and time of sampling or measurements.
 - (2) The date(s) analyses were performed.
 - (3) The company or entity that performed the analyses.
 - (4) The analytical techniques or methods used.
 - (5) The results of such analyses.
 - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Northeast District Office.

- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Northeast District Office. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
 - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the Ohio EPA DAPC, Northeast District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Ohio EPA DAPC, Northeast District Office in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

6. Compliance Requirements

- a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted

local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

- b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
- (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c) The permittee shall submit progress reports to the Ohio EPA DAPC, Northeast District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
- (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Northeast District Office.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Northeast District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

10. Applicability

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s) not exempt from the requirement to obtain a Permit-to-Install.

11. Construction of New Sources(s) and Authorization to Install

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the

Director within a reasonable time before the termination date and the permittee shows good cause for any such extension.

- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., 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) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., 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). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.

13. Construction Compliance Certification

The applicant shall identify the following dates in the "Air Services" facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in "Air Services" once the transfer is legally completed. The change must be submitted through "Air Services" within thirty days of the ownership transfer date.

18. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

19. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.



Final Permit-to-Install
BASF Corporation
Permit Number: P0115631
Facility ID: 0247040195
Effective Date:6/23/2015

B. Facility-Wide Terms and Conditions



Final Permit-to-Install
BASF Corporation
Permit Number: P0115631
Facility ID: 0247040195
Effective Date:6/23/2015

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
 - a) None.



Final Permit-to-Install
BASF Corporation
Permit Number: P0115631
Facility ID: 0247040195
Effective Date:6/23/2015

C. Emissions Unit Terms and Conditions

1. P092, #6 Rotary Calciner (E-97)

Operations, Property and/or Equipment Description:

3.17 mmBtu/hr. indirect gas-fired rotary calciner no. 6 for mineral catalyst intermediate products in bldg. 27: a calciner with a wet scrubber to control particulate emissions (PE) or a fabric filter/HEPA filter to control PE vented to a selective catalytic reduction system to control nitrogen oxides emissions; product handling with a wet scrubber to control PE; and product packaging with a fabric filter to control PE.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) d)(10)

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(A)(3)	The emissions of particulate matter less than or equal to 10 microns in diameter (PM ₁₀) shall not exceed 0.173 ton per month averaged over a 12-month rolling period from all process operations, combined. See b)(2)a, b)(2)b, b)(2)c, b)(2)e, b)(2)f and c)(1). The nitrogen oxides (NO _x) emissions shall not exceed 0.212 ton per month averaged over a 12-month rolling period from all process operations, combined. See b)(2)d, b)(2)f and c)(1).
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05 (A)(3) do not apply to the emissions of PM ₁₀ and NO _x from this air contaminant source since the potential to emit is less than 10 tons per year. See b)(2)g.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stacks serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by the rule. The presence of water vapor in the scrubber plume does not constitute visible emissions.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-17-10(B)	The particulate emissions (PE) from the natural gas combustion process shall not exceed 0.020 lb/mmBtu of actual heat input. See c)(1).
e.	OAC rule 3745-17-11(B)(1)	The PE from all process operations, combined, excluding the natural gas fuel combustion process, shall not exceed 1.83 lbs/hr. See b)(2)a, b)(2)b, b)(2)c and b)(2)e.
f.	OAC rule 3745-31-05(F) Voluntary Restriction to Limit Potential to Emit	<p>The emissions of particulate matter less than or equal to 10 microns in diameter (PM₁₀) shall not exceed 0.46 lb/hr from all process operations, combined, excluding the natural gas fuel combustion process. See b)(2)a, b)(2)b, b)(2)c, b)(2)e and b)(2)f.</p> <p>The nitrogen oxides (NO_x) emissions shall not exceed 0.26 lb/hr, averaged over each batch from the calciner process. See b)(2)d.</p> <p>See c)(1).</p>

(2) Additional Terms and Conditions

- a. The exhaust gases from the materials feed and product discharge processes shall be vented to a wet scrubber (e.g. Sly 3-stage scrubber) at all times when the emissions unit is in operation.
- b. The exhaust gases from the calcining process shall be vented to a wet scrubber (e.g. Sly 3-stage scrubber) at all times NO_x generating materials are processed when the emissions unit is in operation.
- c. The exhaust gases from the calcining process shall be vented to a fabric filter/HEPA filter system (e.g. Flex-Kleen 84 WRBS-64IIIG/HEPA) at all times NO_x generating materials are processed when the emissions unit is in operation.
- d. The exhaust gases from the fabric filter/HEPA filter system (e.g. Flex-Kleen 84 WRBS-64IIIG/HEPA), employed at all times NO_x generating materials are processed in the calciner process, shall be vented to a selective catalytic reduction (SCR) system when the emissions unit is in operation.
- e. The exhaust gases from the screening/drumming process shall be vented to a dust collector (e.g. Donaldson Torit Model DFO 2-2 TEFC) at all times the emissions unit is in operation.

- f. These Best Available Technology (BAT) emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(b) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
 - g. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
- c) Operational Restrictions
- (1) The permittee shall burn only natural gas in the natural gas fired burner used to indirectly heat materials associated with this emissions unit.
- d) Monitoring and/or Recordkeeping Requirements
- (1) 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.
 - (2) 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 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 emissions incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.
- If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions 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.
- (3) The permittee shall record the following information for each day of calcining process operations at this emissions unit:

- a. an identification of whether NO_x generating materials were processed and the materials formulation identification for such NO_x generating materials at this emissions unit;
 - b. for each NO_x generating material formulation, the emissions factor for the uncontrolled NO_x pollutant emissions in lbs NO₂/batch; and
 - c. a log of the downtime for each capture (collection) system, the SCR system, and the associated monitoring equipment for the NO_x control equipment when NO_x generating materials are processed at this emissions unit.
- (4) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range(s) and/or limit(s) for the wet scrubber (e.g. Sly 3-stage scrubber) which serves the materials feed and product discharge processes and the calcining process if no NO_x generating materials are processed that shall be maintained in order to demonstrate compliance shall be:
- a. a pressure drop across the demister for the scrubber shall not be greater than 1 inch of water; and
 - b. the scrubber liquid flow rate to the scrubber shall not be less than 2 gallons per minute.
- (5) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range(s) and/or limit(s) for the fabric filter or dust collector that shall be maintained in order to demonstrate compliance shall be:
- a. a pressure drop across the Flex-Kleen 84 WRBS-64IIIIG/HEPA fabric filter, which serves the calcining process at all times NO_x generating materials are processed shall not be less than 1 inch of water at all times NO_x generating materials are processed; and
 - b. a pressure drop across the Donaldson Torit Model DFO 2-2 TEFC dust collector shall not be less than 2 inches of water.
- (6) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range(s) and/or limit(s) for the SCR which serves the calcining process at all times NO_x generating materials are processed that shall be maintained in order to demonstrate compliance shall be:
- a. the NO_x concentration in the calciner exhaust gas shall be monitored and the material feed to the calciner shall be discontinued when the NO_x concentration at the outlet of the SCR is 200 ppmvd or more over a 5-minute period until the cause of the elevated NO_x concentration is corrected; and
 - b. the SCR bed exhaust temperature during any period of time when the emissions unit(s) controlled by the SCR is/are in operation shall be not less than 650 degrees Fahrenheit.

- (7) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop across the scrubber, fabric filter and dust collector (in inches of water column), the scrubber liquid flow rate (in gallons per minute), the NO_x concentration in the SCR exhaust gas, and the SCR bed exhaust temperature, including periods of startup and shutdown. The permittee shall record the above mentioned control equipment parameters on a 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.
- (8) Whenever the monitored value of the control equipment parameter(s) deviate(s) from the range or limit established in accordance with this permit as specified in d)(4) through d)(7), the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
- a. an identification of the process operation(s), and control device(s) identification where the deviation occurred;
 - b. the date and time the deviation began;
 - c. the magnitude of the deviation at that time;
 - d. the date the investigation was conducted;
 - e. the name(s) of the personnel who conducted the investigation; and
 - f. 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(s)/limit(s) 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:

- g. a description of the corrective action;
- h. the date corrective action was completed;
- i. the date and time the deviation ended;
- j. the total period of time (in minutes) during which there was a deviation;
- k. the values of the control equipment parameter(s) immediately before and immediately after the corrective action(s) was/were implemented; and
- l. 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.

The range(s) or limit(s) on the control equipment parameter(s) are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA Northeast District Office. The permittee may request revisions to the permitted control equipment parameter range(s) or limit(s) based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) of the controlled pollutant(s). In addition, approved revisions to the parameter range(s) and limit(s) will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

- (9) The permittee shall maintain monthly records of the actual hours of operation of this emissions unit and the PM₁₀ and NO_x emissions from all process operations, combined, and at the end of 12 months of operation, the rolling, 12-month summation of PM₁₀ and NO_x emissions, and the average calculated over each rolling, 12-month period, in tons.
- (10) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", 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 a permittee to apply for and obtain a new or modified permit-to-install (PTI) 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 PTI.

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 semiannual written reports that identify:
 - 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.

These reports shall be submitted to the Director (the Ohio EPA Northeast District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

- (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following report in accordance with the monitoring requirements in d)(4) through d)(8):
 - a. any period of time (start time and date, and end time and date) when this emissions unit was processing NO_x generating materials and the process emissions were not vented to the fabric filter/HEPA filter system (e.g. Flex-Kleen 84 WRBS-64IIIIG/HEPA) and SCR system exhaust gas control equipment train;

- b. each period of time (start time and date, and end time and date) when a control device parameter was outside of the acceptable range(s) or limit(s);
- c. any exceedance of the monthly average 12-month rolling limit(s) specified in b)(1)a;
- d. each incident of deviation described in (a) through (c) (above) where a prompt investigation was not conducted;
- e. each incident of deviation described in (a) through (c) where prompt corrective action, that would bring the emissions unit into compliance and/or the control equipment parameter(s) into compliance with the acceptable range(s) or limit(s), was determined to be necessary and was not taken; and
- f. each incident of deviation described in (a) through (c) where proper records were not maintained for the investigation and/or the corrective action(s).

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (4) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

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. Emission Limitation:

Visible particulate emissions from the stacks serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by the rule. The presence of water vapor in the scrubber plume does not constitute visible emissions.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emission limitation shall be demonstrated through visible emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

- b. Emission Limitation:

The PM₁₀ emissions shall not exceed 0.46 lb/hr from all process operations, excluding the natural gas fuel combustion process.

The PE from all process operations, combined, excluding the natural gas fuel combustion process, shall not exceed 1.83 lbs/hr.

Applicable Compliance Method:

Compliance may be based on the following equation:

The maximum, controlled hourly emissions may be estimated by the following equation:

$$\text{Pollutant}(\text{lb/hr})_i = \sum \{ \text{PWR}_i \times \text{ton}_{\text{MTL}} / 2000 \text{ lbs.}_{\text{MTL}} \times \text{EF}_i \times (1 - \text{CE}_i) \}$$

where:

$\text{Pollutant}(\text{lb/hr})_i$ = the maximum hourly emissions from the summation of all production processes, in pound of pollutant, as PE or PM_{10} considering the use of control equipment, which were estimated to be 1.80 lbs PE/hr and 0.45 lb PM_{10} /hr;

PWR_i = the maximum process weight rate of process i , in pounds of material per hour, which is 600 lbs_{MTL} /hr for the raw material feed and calcining processes each, 400 lbs_{MTL} /hr for the product discharge process and 800 lbs_{MTL} /hr for the screening/drumming process as stated in the application(s) for PTI P0115631;

EF_i = the factor for uncontrolled pollutant emissions from process i , in pounds of pollutant per ton of material, as specified for the following process operation types: 120 $\text{lbs PE}_{\text{UNCTRL}}/\text{ton}_{\text{MTL}}$ and 30 $\text{lbs PM}_{10}/\text{ton}_{\text{MTL}}$ from Table 11.25-7, AP42 Chap 11.25 (1/1995) for rotary calcining; 0.12 $\text{lb PE}_{\text{UNCTRL}}/\text{ton}_{\text{MTL}}$ and 0.06 $\text{lb PM}_{10}/\text{ton}_{\text{MTL}}$ from Table 11.24-2, AP42 Chap 11.24 (8/1982) for material handling and transfer;

CE_i = efficiency of primary control device i (e.g. Sly 3-stage scrubber) which is 95% or 0.95, for raw material feed, calcining and product discharge processes as stated in the application(s) for PTI P0115631; and

CE_i = efficiency of primary control device i (e.g. Donaldson Torit Model DFO 2-2 TEFC dust collector) which is 99% or 0.99, for the screening/drumming process, as stated in the application(s) for PTI P0115631.

If required, compliance with the limitation(s) for the PE and PM_{10} emissions shall be demonstrated in accordance with the following methods:

Methods 1 – 4, 40 CFR Part 60, Appendix A;
Method 5, 40 CFR Part 60, Appendix A for the PE rate; and
Method 201 or 201A for PM_{10} , 40 CFR Part 51, Appendix M.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

c. Emission Limitation:

The NO_x emissions shall not exceed 0.26 lb/hr, averaged over each batch from the calciner process.

Applicable Compliance Method:

Compliance may be based on the following estimation method(s):

$$\text{Pollutant}(\text{HR})_i = \text{EF}_i \times \text{batch}/\text{HR} \times (1 - \text{CE}_i)$$

where:

$\text{Pollutant}(\text{HR})_i$ = the maximum, controlled NO_x emissions from the calcining process were estimated to be 0.26 lb NO_x/hr ;

EF_i = the factor for uncontrolled pollutant emissions, a worst case factor is 247.1 lbs $\text{NO}_2_{\text{UNCTRL}}/\text{batch}$, which was developed for a specific formulation with a batch weight of 2770 lbs as stated in the application for PTI P0115631 (Whenever nitrogen-containing material is processed, nitrogen dioxide (NO_2) emissions will be generated from the metal nitrates and nitric acid, assuming that all nitrate (NO_3) ions could be converted to NO_2 emissions.);

HR = the minimum batch time to process NO_x generating materials, which is 9.5 hrs/batch as stated in the application for PTI P0115631; and

CE_i = efficiency of control device i , which is at least 0.99, when the SCR system is employed, as stated in the application for PTI P0115631.

d. Emission Limitation:

The PE from the natural gas combustion process shall not exceed 0.020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance may be based on the following estimation method:

$$\text{PE}(\text{lb}/\text{mmBtu}) = \text{EF}/(\text{Btu}/\text{cf})$$

where:

$\text{PE}(\text{lb}/\text{mmBtu})$ = the PE rate, which is estimated to be 0.0074 pound of PE- PM_{10} per million Btu actual heat input;

EF = emission factor, which is 7.6 lb PE- PE_{10} per million cubic foot of natural gas fuel flow per AP42 Table 1.4-2. Chap. 1.4 (July, 1998); and

Btu/cf = factor to convert heat input to cubic foot of natural gas fuel flow, which is 1020 Btu/cf as specified in the application for PTI P0115631.

If required, compliance with the emission limitation for the PE rate shall be determined in accordance with the following methods:

Methods 1 – 4, 40 CFR Part 60, Appendix A; and
Method 5 for PE, 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

e. Emission Limitation:

The PM₁₀ emissions shall not exceed 0.173 ton per month averaged over a 12-month rolling period from all process operations, combined.

The NO_x emissions shall not exceed 0.212 ton per month averaged over a 12-month rolling period from all process operations, combined.

Applicable Compliance Method:

Compliance may be demonstrated based on the following equation(s):

- i. Determination of the hourly PM₁₀ and NO_x emissions rates from the natural gas combustion process:

$$\text{Pollutant}(\text{lb/hr})_i = \text{Btu} \times \text{cf}/1020 \text{ Btu} \times \text{EF}_i$$

where:

Pollutant(lb/hr)_i = the maximum, hourly emissions which were estimated to be 0.024 lbPM₁₀/hr and 0.31 lb NO_x/hr;

Btu = the maximum heat capacity of the calciner burner which is 3.17 x 10⁶ Btu/hr as stated in the application for PTI P0115631;

cf/1020 = factor to convert heat input to cubic foot of natural gas fuel flow which is 1020 Btu/cf as specified in the application for PTI P0115631; and

EF_i = the emission factor which is 7.6 lb PE-PE₁₀ per million cubic foot of natural gas fuel flow per AP42 Table 1.4-2. Chap. 1.4 (July, 1998) and 100 lb NO_x per million cubic foot of natural gas fuel flow per AP42 Table 1.4-1. Chap. 1.4 (July, 1998).

- ii. Determination of the monthly emissions rate:

$$\text{Pollutant}(\text{ton/month})_i = \{[\text{Pollutant}_i(\text{lb/hr})_{\text{Production}} + \text{Pollutant}_i(\text{lb/hr})_{\text{NG}}] \times \text{ton Pollutant}/2000 \text{ lbs Pollutant} \times \text{Operating Period}(\text{hrs/month})\}$$

where:

Pollutant(ton/month)_i = the pollutant emissions, considering the use of any capture equipment and control equipment, in ton/month;

Pollutant_i(lb/hr)_{Production} = the maximum, hourly pollutant emissions from the production processes, combined, as determined in f)(1)b and f)(1)c;

Pollutant_i(lb/hr)_{NG} = the maximum, hourly pollutant emissions from the natural gas combustion process, as determined in f)(1)e.i; and

Operating Period(hrs/month) = the actual hours of operation per month of this emissions unit.

- iii. Determination of the PM₁₀ and NO_x emissions from all processes averaged over a 12-month rolling period.

Compliance shall be demonstrated based on the record keeping requirements specified in d)(9) for this emissions unit determined following the first 12 months of operation.

g) **Miscellaneous Requirements**

- (1) P092 was installed on 6/01/1960 and was not classified as a new source, as defined in OAC rule 3745-31-01. Therefore, a Permit to Install was not required for the original installation. Circa 2013 the applicant made a process change that increased the potential PE rate and potential emissions of PM₁₀ and NO_x. Only the PM₁₀ and NO_x emissions, which are air contaminants or precursors of an air contaminant for which a national ambient air quality standard has been adopted under the Clean Air Act, are subject to the Ohio Best Available Technology requirements in accordance with OAC rule 3745-31-05(A)(3).
- (2) Materials at P092 are processed into chemical compound products that are different in composition and chemical structure from the raw materials and do not produce metallic mineral concentrates from ore. P092 is not subject to the requirements of 40 CFR Part 60, Subpart LL, the New Source Performance Standards for Metallic Mineral Processing Plants.
- (3) P092 has a calciner that may process materials specified in 40 CFR 60.731 (e.g., alumina). However, the calciner was constructed prior to April 23, 1986, and the increase in production rate associated with the PE-PM₁₀ emissions was accomplished without a capital expenditure. As such, this action is not a modification under 40 CFR 60.14 and is therefore not subject to 40 CFR Part 60, Subpart UUU, the New Source Performance Standards for Calciners and Dryers in Mineral Industries.
- (4) The Sly 3-stage scrubber is employed to control the PE rate and PM₁₀ emissions from the following emissions units: P092 and P130.
- (5) The selective catalytic reduction (SCR) system is employed to control NO_x emissions whenever NO_x generating materials are processed at any calcining process from any of the following emissions units: P009, P010, P080, P092, P102 and P103.

2. P130, #6 P&S Dryer (Building 27)

Operations, Property and/or Equipment Description:

#6 P&S dryer for impregnated extrudate material in building 27: 3.0 mmBtu/hr natural gas indirect fired air heater for the extrudate drier with a wet scrubber to control particulate emissions (PE); and material handling with a wet scrubber to control PE.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) d)(7)

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(A)(3)	<p>Visible particulate emissions from the stacks serving this emissions unit shall not exceed 5% opacity as a 6-minute average. The presence of water vapor in the scrubber plume does not constitute visible emissions.</p> <p>The particulate emissions (PE) from all process operations, combined, excluding the natural gas fuel combustion process, shall not exceed 0.20 lb/hr. See b)(2)a.</p> <p>The PE rate from all process operations, combined, shall not exceed 0.90 tpy. See c)(1).</p> <p>The annual emissions from the natural gas fuel combustion process shall not exceed the following:</p> <p>0.0077 ton sulfur dioxide (SO₂); 1.08 tons carbon monoxide (CO); 0.071 ton volatile organic compound (VOC); and 1.29 tons nitrogen oxides (NO_x).</p> <p>See c)(1).</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-10(B)	The PE from the natural gas combustion process shall not exceed 0.020 lb/mmBtu of actual heat input. See c)(1).
d.	OAC rule 3745-17-11(B)(1)	The emission limitation regarding all process operations, combined, excluding the natural gas fuel combustion process, specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

- a. The exhaust gases from the materials drying and product discharge processes shall be vented to a wet scrubber (e.g. Sly 3-stage scrubber) at all times when the emissions unit is in operation.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in the natural gas fired burner used to indirectly dry materials associated with this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

- (1) 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.
- (2) 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 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 emissions incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions 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.

- (3) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range(s) and/or limit(s) for the wet scrubber (e.g. Sly 3-stage scrubber) which serves the material drying and product discharge processes that shall be maintained in order to demonstrate compliance shall be:
 - a. a pressure drop across the demister for the scrubber shall not be greater than 1 inch of water; and
 - b. the scrubber liquid flow rate to the scrubber shall not be less than 2 gallons per minute.
- (4) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop across the scrubber (in inches of water column) and the scrubber liquid flow rate (in gallons per minute), including periods of startup and shutdown. The permittee shall record the above mentioned control equipment parameters on a 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.
- (5) Whenever the monitored value of the control equipment parameter(s) deviate(s) from the range or limit established in accordance with this permit as specified in d)(3) and d)(4), the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
 - a. an identification of the process operation(s), and control device(s) identification where the deviation occurred;
 - b. the date and time the deviation began;
 - c. the magnitude of the deviation at that time;
 - d. the date the investigation was conducted;
 - e. the name(s) of the personnel who conducted the investigation; and
 - f. 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(s)/limit(s) 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:

- g. a description of the corrective action;
- h. the date corrective action was completed;
- i. the date and time the deviation ended;
- j. the total period of time (in minutes) during which there was a deviation;
- k. the values of the control equipment parameter(s) immediately before and immediately after the corrective action(s) was/were implemented; and
- l. 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.

- (6) The range(s) or limit(s) on the control equipment parameter(s) are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA Northeast District Office. The permittee may request revisions to the permitted control equipment parameter range(s) or limit(s) based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) of the controlled pollutant(s). In addition, approved revisions to the parameter range(s) and limit(s) will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.
- (7) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", 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 a permittee to apply for and obtain a new or modified permit-to-install (PTI) 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 PTI.

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 semiannual written reports that identify:
 - 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 eliminate the visible particulate emissions.
- (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following report in accordance with the monitoring requirements in d)(3) through d)(6):
 - a. each period of time (start time and date, and end time and date) when a control device parameter was outside of the acceptable range(s) or limit(s);
 - b. each incident of deviation described in (a) (above) where a prompt investigation was not conducted;
 - c. each incident of deviation described in (a) where prompt corrective action, that would bring the emissions unit into compliance and/or the control equipment parameter(s) into compliance with the acceptable range(s) or limit(s), was determined to be necessary and was not taken; and
 - d. each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action(s).

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (4) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- 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. Emission Limitation:

Visible particulate emissions from the stacks serving this emissions unit shall not exceed 5% opacity as a 6-minute average. The presence of water vapor in the scrubber plume does not constitute visible emissions.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emission limitation shall be demonstrated through visible emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

b. Emission Limitation:

The PE from all process operations, combined, excluding the natural gas fuel combustion process, shall not exceed 0.20 lb/hr.

Applicable Compliance Method:

Compliance may be based on the following equation:

The maximum, controlled hourly emissions may be estimated by the following equation:

$$\text{Pollutant}(\text{lb/hr})_i = \sum \{PWR_i \times \text{ton}_{\text{MTL}}/2000 \text{ lbs}_{\text{MTL}} \times EF_i \times (1 - CE_i)\}$$

where:

$\text{Pollutant}(\text{lb/hr})_i$ = the maximum hourly emissions from the summation of all production processes, in pound of pollutant, as PE considering the use of control equipment, which was estimated to be 0.20 lb PE/hr;

PWR_i = the maximum process weight rate of process i , in pounds of material per hour, which is 400 $\text{lbs}_{\text{MTL}}/\text{hr}$ for the drying and product discharge processes as stated in the application(s) for PTI P0115631;

EF_i = the factor for uncontrolled pollutant emissions from process i , in pounds of pollutant per ton of material, as specified for the following process operation types: 19.7 $\text{lbs PE}_{\text{UNCTRL}}/\text{ton}_{\text{MTL}}$ from Table 11.24-2, AP42 Chap 11.24 (8/1982) for drying minerals except titanium/zirconium sands; and 0.12 $\text{lb PE}_{\text{UNCTRL}}/\text{ton}_{\text{MTL}}$ from Table 11.24-2, AP42 Chap 11.24 (8/1982) for material handling and transfer; and

CE_i = efficiency of primary control device i (e.g. Sly 3-stage scrubber) which is 95% or 0.95 for raw material feed, calcining and product discharge processes as stated in the application(s) for PTI P0115631.

If required, compliance with the limitation(s) for the PE rate shall be demonstrated in accordance with the following methods:

Methods 1 – 4, 40 CFR Part 60, Appendix A; and
Method 5, 40 CFR Part 60, Appendix A for the PE rate.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

c. Emission Limitation:

The PE from the natural gas combustion process shall not exceed 0.020 lb/mmBtu of actual heat input.



Applicable Compliance Method:

Compliance may be based on the following estimation method:

$$PE(\text{lb/mmBtu}) = EF/(\text{Btu}/\text{cf})$$

where:

PE(lb/mmBtu) = the PE rate which is estimated to be 0.0074 pound of PE-PM₁₀ per million Btu actual heat input;

EF = emission factor which is 7.6 lb PE-PE₁₀ per million cubic foot of natural gas fuel flow per AP42 Table 1.4-2. Chap. 1.4 (July, 1998); and

Btu/cf = factor to convert heat input to cubic foot of natural gas fuel flow which is 1020 Btu/cf as specified in the application for PTI P0115631.

If required, compliance with the limitation(s) for the PE rate shall be demonstrated in accordance with the following methods:

Methods 1 – 4, 40 CFR Part 60, Appendix A; and
Method 5 for PE, 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. Emission Limitation:

The PE rate from all process operations, combined, shall not exceed 0.90 tpy.

The annual emissions from the natural gas fuel combustion process shall not exceed the following:

0.0077 ton sulfur dioxide (SO₂);

1.08 tons carbon monoxide (CO);

0.071 ton volatile organic compound (VOC); and

1.29 tons nitrogen oxides (NO_x).

Applicable Compliance Method:

Compliance may be demonstrated based on the following equation(s):

i. Determination of the hourly emission rates from the natural gas combustion process:

$$\text{Pollutant}(\text{lb}/\text{hr})_i = \text{Btu} \times \text{cf}/1020 \text{ Btu} \times \text{EF}_i$$

where:

Pollutant(lb/hr)_i = the maximum, hourly emissions which were estimated to be 0.006 lb PE-PM₁₀/hr, 0.002lb SO₂/hr; 0.247 lb CO/hr; 0.016lbVOC/hr and 0.294 lb NO_x/hr;

Btu = the maximum heat capacity of the calciner burner, which is 3.0 x 10⁶ Btu/hr as stated in the application for PTI P0115631;

cf/1020 = factor to convert heat input to cubic foot of natural gas fuel flow, which is 1020 Btu/cf as specified in the application for PTI P0115631; and

EF_i = the emission factor, in pound of pollutant per million cubic foot (lb/mmcf) of natural gas fuel flow which is 7.6 lb PE-PE₁₀/mmcf, 0.6 lbSO₂/mmcf, 84 lbs CO/mmcf, 5.5lbVOC/mmcf, and 100 lb NO_x/dscf per AP42 Tables 1-4-1 and 1.4-2. Chap. 1.4 (July, 1998).

ii. Determination of the maximum, annual emissions rate:

$$\text{Pollutant}(\text{ton}/\text{yr})_i = \sum \{ [\text{Pollutant}_i(\text{lb}/\text{hr})_{\text{Production}} + \text{Pollutant}_i(\text{lb}/\text{hr})_{\text{NG}}] \times \text{ton Pollutant} / 2000 \text{ lbs Pollutant} \times 8760 (\text{hrs}/\text{yr}) \}$$

where:

Pollutant(ton/yr)_i = the maximum, annual pollutant emissions considering the use of any capture equipment and control equipment which were estimated to be 0.90 ton PE/yr, 0.0077 ton SO₂/yr; 1.08 tons CO/yr; 0.071 ton VOC/yr and 1.29 tons NO_x/yr;

Pollutant_i(lb/hr)_{Production} = the maximum, hourly pollutant emissions from the production processes, combined, as determined in f)(1)b.i;

Pollutant_i(lb/hr)_{NG} = the maximum, hourly pollutant emissions from the natural gas combustion process, as determined in f)(1)d.i; and

8760 hrs/yr = the maximum, annual hours of operation.

g) Miscellaneous Requirements

- (1) P130 was installed circa 1/01/2000 and is not eligible for the Ohio Best Available Technology exemption (the less than 10 tons per year BAT exemption) per OAC paragraph 3745-31-05(A)(3)(a)(ii).
- (2) Materials at P130 are processed into chemical compound products that are different in composition and chemical structure from the raw materials and do not produce metallic mineral concentrates from ore. P130 is not subject to the requirements of 40 CFR Part 60, Subpart LL, the New Source Performance Standards for Metallic Mineral Processing Plants.
- (3) P130 has an apron dryer that is exempt from the requirements of 40 CFR Part 60, Subpart UUU, the New Source Performance Standards for Calciners and Dryers in Mineral Industries in accordance with 40 CFR 60.730(b).



Final Permit-to-Install
BASF Corporation
Permit Number: P0115631
Facility ID: 0247040195
Effective Date: 6/23/2015

- (4) The Sly 3-stage scrubber is employed to control the PE rate and PM₁₀ emissions from the following emissions units: P092 and P130.

3. P131, Copper Tablet Precursor Process

Operations, Property and/or Equipment Description:

Copper tablet precursor production: pneumatic transfer of copper/chromium oxide powder; a mixer with a bin vent filter to control particulate emissions (PE); a 0.85 mmBtu/hr natural gas indirect fired dryer with a bin vent filter to control PE; a mill/blend system with a dust collector to control PE vented to a HEPA after filter.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) d)(7)

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(A)(3)	The emissions of particulate matter less than or equal to 10 microns in diameter (PM ₁₀) shall not exceed 0.0525 ton per month averaged over a 12-month rolling period from all process operations, combined. See b)(2)a, b)(2)b, b)(2)c and b)(2)d. The emissions of total chromium shall not exceed 0.0525 ton per month averaged over a 12-month rolling period from all process operations, combined. See b)(2)a, b)(2)b, b)(2)c, b)(2)d and c)(2). See c)(1).
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05 (A)(3) do not apply to the emissions from this air contaminant source since the potential to emit is less than 10 tons per year. See b)(2)e.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stacks serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-10(B)	The particulate emissions (PE) from the natural gas combustion process shall not exceed 0.020 lb/mmBtu of actual heat input. See c)(1).
d.	OAC rule 3745-17-11(B)(1)	The PE from all process operations, combined, excluding the natural gas fuel combustion process, shall not exceed 1.36lbs/hr. See b)(2)a, b)(2)b and b)(2)c.
e.	OAC rule 3745-31-05(F) Voluntary Restriction to Limit Potential to Emit	<p>The emissions of PM₁₀ from all process operations, combined, excluding the natural gas fuel combustion process, shall not exceed 0.14 lb/hr. See b)(2)a, b)(2)b and b)(2)c.</p> <p>The emissions of total chromium from all process operations, combined, excluding the natural gas fuel combustion process, shall not exceed 0.14lb/hr. See b)(2)a, b)(2)b, b)(2)c and c)(2).</p> <p>See c)(1).</p>

(2) Additional Terms and Conditions

- a. A pneumatic system shall be employed for materials charged to the mixer at all times materials are charged to the mixer.
- b. The exhaust gases from the materials feed, mixing and drying processes shall be vented to a bin vent dust collector (e.g. F-10-01 Donaldson Torit Model DMLC bin vent dust collector) at all times when the emissions unit is in operation.
- c. The exhaust gases from the conveying and mixing shall be vented to a cartridge filter (e.g. DC-10-01 Donaldson Torit Model DFT 3-6 cartridge filter) at all times the emissions unit is in operation.
- d. These Best Available Technology (BAT) emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-21-05(A)(3)(b) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- e. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in the natural gas fired burner used to indirectly dry materials associated with this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

- (1) 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.
- (2) 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 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 emissions incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions 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.

- (3) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range(s) and/or limit(s) for the dust collector and the cartridge filter that shall be maintained in order to demonstrate compliance shall be:
 - a. a pressure drop across the F-10-01 Donaldson Torit Model DMLC bin vent dust collector which serves the materials feed, mixing and drying processes shall not be less than 1 inch of water; and
 - b. a pressure drop across the DC-10-01 Donaldson Torit Model DFT 3-6 cartridge filter shall not be less than 1 inch of water.

- (4) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop across the dust collector and cartridge filter (in inches of water column), including periods of startup and shutdown. The permittee shall record the above mentioned control equipment parameters on a 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.
- (5) Whenever the monitored value of the control equipment parameter(s) deviate(s) from the range or limit established in accordance with this permit as specified in d)(3) and d)(4), the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
- a. an identification of the process operation(s), and control device(s) identification where the deviation occurred;
 - b. the date and time the deviation began;
 - c. the magnitude of the deviation at that time;
 - d. the date the investigation was conducted;
 - e. the name(s) of the personnel who conducted the investigation; and
 - f. 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(s)/limit(s) 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:

- g. a description of the corrective action;
- h. the date corrective action was completed;
- i. the date and time the deviation ended;
- j. the total period of time (in minutes) during which there was a deviation;
- k. the values of the control equipment parameter(s) immediately before and immediately after the corrective action(s) was/were implemented; and
- l. 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.

The range(s) or limit(s) on the control equipment parameter(s) are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA Northeast District Office. The permittee may request revisions to the permitted control equipment parameter range(s) or limit(s) based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) of the controlled pollutant(s). In addition, approved revisions to the parameter range(s) and limit(s) will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

- (6) The permittee shall maintain monthly records of the actual hours of operation of this emissions unit and the PM₁₀ and total chromium emissions from all processes, combined; and at the end of 12 months of operation, the rolling, 12-month summation of PM₁₀ and total chromium emissions, and the average calculated over each rolling, 12-month period, in tons.
- (7) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", 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 a permittee to apply for and obtain a new or modified permit-to-install (PTI) 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 PTI.

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 semiannual written reports that identify:
 - 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.

These reports shall be submitted to the Director (the Ohio EPA Northeast District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

- (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following report in accordance with the monitoring requirements in (d)(3) through d)(6):
 - a. any period of time (start time and date, and end time and date) when this emissions unit was processing chromium containing materials and the total chromium content of the materials feed to the mixer exceeded 68 percent by weight;

- b. each period of time (start time and date, and end time and date) when a control device parameter was outside of the acceptable range(s) or limit(s);
- c. any exceedance of the monthly average 12-month rolling limit(s) specified in b)(1)a;
- d. each incident of deviation described in (a) through (c) (above) where a prompt investigation was not conducted;
- e. each incident of deviation described in (a) through (c) where prompt corrective action, that would bring the emissions unit into compliance and/or the control equipment parameter(s) into compliance with the acceptable range(s) or limit(s), was determined to be necessary and was not taken; and
- f. each incident of deviation described in (a) through (c) where proper records were not maintained for the investigation and/or the corrective action(s).

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (4) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

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. Emission Limitation:

Visible particulate emissions from the stacks serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emission limitation shall be demonstrated through visible emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

- b. Emission Limitation:

The PE from all process operations, combined, excluding the natural gas fuel combustion process, shall not exceed 1.36lbs/hr.

The emissions of PM₁₀ from all process operations, combined, excluding the natural gas fuel combustion process, shall not exceed 0.14 lb/hr.

The emissions of total chromium from all process operations, combined, excluding the natural gas fuel combustion process, shall not exceed 0.14lb/hr.

Applicable Compliance Method:

- i. The maximum, controlled hourly PE rate and PM₁₀ emissions may be estimated by the following equation:

$$\text{Pollutant(lb/hr)}_i = (\text{PWR}_{\text{FEED}} \times \text{EF}_{\text{FEED}}) + \sum \{ \text{PWR}_i \times \text{EF}_i \times (1 - \text{CE}_i) \}$$

where:

Pollutant(lb/hr)_i = the maximum hourly emissions from the summation of all production processes, in pound of pollutant, considering the use of control equipment, which was estimated to be 0.1349 lb PE/hr and 0.1348lbPM₁₀/hr;

PWR_{FEED} = the maximum process weight rate of the raw powder feed process, which is 0.193ton of material per hour (0.193 ton_{MTL}/hr) as specified for the following process types as stated in the application for PTI P0115631;

EF_{FEED} = the factor(s) for the controlled pollutant emissions from the feed process, which is 0.58 lb PE/ton_{MTL} and 0.58 lb PM₁₀/ton_{MTL} from Table 6.1-4, AP42 Chap 6.1 (5/1983) from pneumatic system vented to a bag filter for the raw powder feed system process;

PWR_i = the maximum process weight rate of process i, in pounds of material per hour, which is as specified for the following process types as stated in the application for PTI P0115631:

0.220 ton_{MTL}/hr for each of the mixing, drying and solids conveying processes; and

0.225 ton_{MTL}/hr for the milling/blending process; and

EF_i = the factor for uncontrolled pollutant emissions from process i, in pounds of pollutant per ton of material, as specified for the following process types as stated in the application for PTI P0115631:

0.6 lb PE_{UNCTRL}/ton_{MTL} and 0.6 lb PM_{10UNCTRL}/ton_{MTL} from Table 11.13-2, AP42 Chap 11.13 (9/1985) from mixing and weighing for the mixer vent and mill/blend system processes;

10 lbs PE_{UNCTRL}/ton_{MTL} and 10 lbs PM_{10UNCTRL}/ton_{MTL} from a case study that processed phosphor fine crystal and water “body slip” mixture and another that processed Li₂CO₃ each of which yielded a 0.5% product loss to a dust collector, presented by Wyssmont, the tray dryer manufacturer for the drying process; and

0.12 lb PE_{UNCTRL}/ton_{MTL} and 0.06 lb PM_{10UNCTRL}/ton_{MTL} from Table 11.24-2, AP42 Chap 11.24 (8/1982) from material handling and transfer for the solids conveying process; and

CE_i = efficiency of primary control device i (e.g. F-10-01 Donaldson Torit Model DMLC bin vent dust collector) which is 99% or 0.99, for materials feed, mixing and drying processes as stated in the application(s) for PTI P0115631; and

CE_i = efficiency of primary control device i (e.g. DC-10-01 Donaldson Torit Model DFT 3-6 cartridge filter) which is 99% or 0.99, for the conveying and mixing processes as stated in the application(s) for PTI P0115631.

- ii. The maximum, controlled hourly chromium emissions may be estimated by the following equation:

$$\text{Chromium (lb/hr)} = \sum \{PE(\text{lb/hr})_i \times \text{Chromium}_i\}$$

where:

Chromium (lb/hr) = the maximum hourly emissions from the summation of all production processes, in pound of pollutant, considering the use of control equipment, which was estimated to be 0.137lb/hr of total chromium;

PE(lb/hr)_i = the maximum hourly emissions from process i, in pound of pollutant, considering the use of control equipment, as estimated in f)(1)b.i;

Chromium_i = the chromium content for process i, as a decimal fraction, which is 1.0 for each of the following processes: raw powder feed; mixing; drying; conveying and milling/blending. The materials at each process operation contain chromium so that the mixture or blend is considered to be 100 percent hazardous air pollutant containing materials.

If required, compliance with the limitation(s) for the PE rate shall be determined in accordance with the following methods:

Methods 1 – 4, 40 CFR Part 60, Appendix A;

Method 5 for PE, 40 CFR Part 60, Appendix A;

Method 201 or 201A for PM₁₀, 40 CFR Part 51, Appendix M; and

Method 5 or 5D for HAP, 40 CFR Part 60, Appendix A, to determine the concentration of PM, or Method 29 in 40 CFR Part 60, Appendix A-8 to determine the concentration of HAP metals.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

c. Emission Limitation:

The PE from the natural gas combustion process shall not exceed 0.020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance may be based on the following estimation method:

$$PE(\text{lb/mmBtu}) = EF/(\text{Btu/cf})$$

where:

PE(lb/mmBtu) = the PE rate, which is estimated to be 0.0074 pound of PE-PM₁₀ per million Btu actual heat input;

EF = emission factor, which is 7.6 lb PE-PM₁₀ per million cubic foot of natural gas fuel flow per AP42 Table 1.4-2. Chap. 1.4 (July, 1998); and

Btu/cf = factor to convert heat input to cubic foot of natural gas fuel flow, which is 1020 Btu/cf as specified in the application for PTI P0115631.

If required, compliance with the limitation(s) for the PE rate shall be determined in accordance with the following methods:

Methods 1 – 4, 40 CFR Part 60, Appendix A; and
Method 5 for PE, 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. Emission Limitation:

The PM₁₀ emissions shall not exceed 0.0525 ton per month averaged over a 12-month rolling period from all process operations, combined.

The total chromium emissions shall not exceed 0.0525 ton per month averaged over a 12-month rolling period from all process operations, combined.

Applicable Compliance Method:

Compliance may be demonstrated based on the following equation(s):

i. Determination of the hourly PM₁₀ and chromium emissions rates from the natural gas combustion process:

$$\text{Pollutant}(\text{lb/hr})_i = \text{Btu} \times \text{cf}/1020 \text{ Btu} \times \text{EF}_i$$

where:

Pollutant(lb/hr)_i = the maximum, hourly emissions, which were estimated to be 0.0063 lbPM₁₀/hr and 1.17 x 10⁻⁶lb/hr of chromium;

Btu = the maximum heat capacity of the calciner burner, which is 3.17 x 10⁶ Btu/hr as stated in the application for PTI P0115631;

cf/1020 = factor to convert heat input to cubic foot of natural gas fuel flow, which is 1020 Btu/cf as specified in the application for PTI P0115631; and

EF_i = the emission factor, which is 7.6 lb PE-PM₁₀ per million cubic foot of natural gas fuel flow per AP42 Table 1.4-2. Chap. 1.4 (July, 1998) and 1.40 x 10⁻³lb chromium per million cubic foot of natural gas fuel flow per AP42 Table 1.4-4. Chap. 1.4 (July, 1998).

ii. Determination of the monthly emissions rate:

$$\text{Pollutant}(\text{ton/month})_i = [\text{Pollutant}_i(\text{lb/hr})_{\text{Production}} + \text{Pollutant}_i(\text{lb/hr})_{\text{NG}}] \times \text{ton Pollutant}/2000 \text{ lbs Pollutant} \times \text{Operating Period (hrs/month)}$$

where:

Pollutant(ton/yr month)_i = the maximum pollutant emissions, considering the use of any capture equipment and control equipment, in ton/month;

Pollutant_i(lb/hr)_{Production} = the maximum, hourly pollutant emissions from the production processes, combined, as determined in f)(1)b;

Pollutant_i(lb/hr)_{NG} = the maximum, hourly pollutant emissions from the natural gas combustion process, as determined in f)(1)d.i; and

Operating Period (hrs/month) = the actual hours of operation per month of this emissions unit.

iii. Determination of the PM₁₀ and chromium emissions from all processes averaged over a 12-month rolling period.

Compliance shall be demonstrated based on the record keeping requirements specified in d)(6) for this emissions unit determined following the first 12 months of operation.

g) Miscellaneous Requirements

- (1) P131 was installed circa 1/01/2010 and is eligible for the Ohio Best Available Technology exemption (the less than 10 tons per year BAT exemption) per OAC paragraph 3745-31-05(A)(3)(a)(ii).
- (2) Materials at P131 are processed into chemical compound products that are different in composition and chemical structure from the raw materials and do not produce metallic mineral concentrates from ore. P131 is not subject to the requirements of 40 CFR Part 60, Subpart LL, the New Source Performance Standards for Metallic Mineral Processing Plants.

- (3) P131 has a dryer which will not process any of the materials specified in 40 CFR 60.731 and therefore is not subject to 40 CFR Part 60, Subpart UUU, the New Source Performance Standards for Calciners and Dryers in Mineral Industries.
- (4) The F-10-01 Donaldson Torit Model DMLC bin vent dust collector is employed to control the PE rate and emissions of PM₁₀ and chromium from emissions unit P131.
- (5) The DC-10-01 Donaldson Torit Model DFT 3-6 cartridge filter is employed to control the PE rate and emissions of PM₁₀ and chromium from the following emissions units: P070 and P131.

4. P132, Powder Room

Operations, Property and/or Equipment Description:

Handling and bulk bagging of inorganic oxide powders: Pneumatic conveyor line nos. 1-3 have each of the following equipment: super sack unloading with a capture hood; raw powder feed pneumatic conveying; 50 lb. bag transfer to drum with a capture hood; and minor material transfer to a vacuum receiver. All captured hood exhaust gases are vented to dust collector no. 7 to control particulate emissions (PE). And a bulk bag (Super Sack) loading station: 50 lb. bag transfer with a hood; and pneumatic transfer to super sack. All captured bulk bag loading exhaust gases are vented to a dust collector to control PE.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) d)(6)

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(A)(3)	The emissions of particulate matter less than or equal to 10 microns in diameter (PM ₁₀) shall not exceed 0.222 ton per month averaged over a 12-month rolling period from all process operations, combined. See b)(2)a,b)(2)b and b)(2)c.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05 (A)(3) do not apply to the emissions of PM ₁₀ from this air contaminant source since the potential to emit is less than 10 tons per year. See b)(2)d.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stacks serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
d.	OAC rule 3745-17-11(B)(1)	The particulate emissions (PE) from all process operations,combined, shall not exceed 5.01 lbs/hr. See b)(2)a and b)(2)b.
e.	OAC rule 3745-31-05(F) Voluntary Restriction to Limit Potential to Emit	The emissions of PM ₁₀ from all process operations, combined, shall not exceed 0.592lb/hr. See b)(2)aand b)(2)b.

(2) Additional Terms and Conditions

- a. The permittee shall employ the following best available control measures for each of the process operations associated with the above-identified conveyor line nos. 1 through 3 for the purpose of ensuring compliance with the above-mentioned applicable requirements:
 - i. The following process operations shall employ a pneumatic system: raw powder conveying and minor materials transfer. The pneumatic system shall be adequately enclosed so as to eliminate at all times visible emissions of fugitive dust. Any visible emissions of fugitive dust during conveying and transfer shall be cause for the immediate halt of the process until the situation is corrected.
 - ii. The following process operations shall employ an enclosure (e.g. capture hood) which shall be sufficient so as to eliminate at all times visible emissions of fugitive dust at the point of capture: super sack unloading and 50 lb bag transfer to drum.
 - iii. The following process operations shall vent captured exhaust gases to a fabric filter (e.g. DC-7 Bldg. 11 pulse jet fabric filter): raw powder conveying, minor materials transfer, super sack unloading and 50 lb bag transfer to drum.
- b. The permittee shall employ the following best available control measures for the each of the process operations associated with the above-identified bulk bag loading station for the purpose of ensuring compliance with the above-mentioned applicable requirements:
 - i. The 50 lb transfer system operations shall employ an enclosure (e.g. capture hood) which shall be sufficient so as to eliminate at all times visible emissions of fugitive dust at the point of capture.
 - ii. The materials transfer to a supersack shall employ an enclosure (e.g. enclosed conveyor) which shall be sufficient so as to eliminate at all times visible emissions of fugitive dust at the point of capture.
 - iii. The following process operations shall vent captured exhaust gases to a fabric filter (e.g. BBLS-DF reverse pulse jet fabric filter): 50 lb transfer system operations and materials transfer to a supersack.
- c. These Best Available Technology (BAT) emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-21-05(A)(3)(b) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- d. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

c) Operational Restrictions

- (1) None.

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 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 emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions 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) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range(s) and/or limit(s) for the fabric filter or dust collector that shall be maintained in order to demonstrate compliance shall be:

- a. a pressure drop across the DC-7 Bldg. 11 pulse jet fabric filter, which serves each of the raw powder conveying, minor materials transfer, super sack unloading and 50 lb bag transfer to drum processes associated with each of conveyor line nos. 1 – 3 shall be no less than 1 inch of water at all times when these processes are in operation; and
- b. a pressure drop across the BBLs-DF reverse pulse jet fabric filter which serves the 50 lb transfer system process and materials transfer to supersack process associated with the bulk bag loading station shall be no less than 1 inch of water at all times when these processes are in operation.

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop across the fabric filters including periods of startup and

shutdown. The permittee shall record the above mentioned control equipment parameters on a 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.

- (4) Whenever the monitored value of the control equipment parameter(s) deviate(s) from the range or limit established in accordance with this permit as specified in d)(2) and d)(3), the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
- a. an identification of the process operation(s), and control device(s) identification where the deviation occurred;
 - b. the date and time the deviation began;
 - c. the magnitude of the deviation at that time;
 - d. the date the investigation was conducted;
 - e. the name(s) of the personnel who conducted the investigation; and
 - f. 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(s)/limit(s) 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:

- g. a description of the corrective action;
- h. the date corrective action was completed;
- i. the date and time the deviation ended;
- j. the total period of time (in minutes) during which there was a deviation;
- k. the values of the control equipment parameter(s) immediately before and immediately after the corrective action(s) was/were implemented; and
- l. 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.

The range(s) or limit(s) on the control equipment parameter(s) are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA Northeast District Office. The permittee may request revisions

to the permitted control equipment parameter range(s) or limit(s) based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) of the controlled pollutant(s). In addition, approved revisions to the parameter range(s) and limit(s) will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

- (5) The permittee shall maintain monthly records of the actual hours of operation of this emissions unit and PM₁₀ emissions from all processes, combined, and at the end of 12 months of operation, the rolling, 12-month summation of PM₁₀ emissions and the average calculated over each rolling, 12-month period, in tons.
- (6) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", 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 a permittee to apply for and obtain a new or modified permit-to-install (PTI) 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 PTI.

e) Reporting Requirements

- (1) The permittee shall submit semiannual written reports that identify:
 - 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.

These reports shall be submitted to the Director (the Ohio EPA Northeast District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following report in accordance with the monitoring requirements in d)(2) through d)(5):
 - a. each period of time (start time and date, and end time and date) when a control device parameter was outside of the acceptable range(s) or limit(s);
 - b. any exceedance of the monthly average 12-month rolling limit specified in b)(1)a;
 - c. each incident of deviation described in (a) and (b) (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in (a) and (b) where prompt corrective action, that would bring the emissions unit into compliance and/or the control equipment parameter(s) into compliance with the acceptable range(s) or limit(s), was determined to be necessary and was not taken; and

- e. each incident of deviation described in (a) and (b) where proper records were not maintained for the investigation and/or the corrective action(s).

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

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. Emission Limitation:

Visible particulate emissions from the stacks serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emission limitation shall be demonstrated through visible emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

- b. Emission Limitation:

The PE from all process operations, combined, shall not exceed 5.01 lbs/hr.

The emissions of PM₁₀ from all process operations, combined, shall not exceed 0.592lb/hr.

Applicable Compliance Method:

- i. The maximum, controlled hourly PE rate and PM₁₀ emissions may be estimated by the following equation:

$$\text{Pollutant}(\text{lb/hr})_i = \sum\{\text{PWR}_{\text{FEEDI}} \times \text{EF}_{\text{FEEDI}} \times (1 - \text{CAPE}_{\text{FEEDI}})\} + \sum\{\text{PWR}_i \times \text{EF}_i \times (1 - \text{CAPE}_i) + [\text{CAPE}_i \times (1 - \text{CE}_i)]\}$$

where:

Pollutant(lb/hr)_i = the maximum hourly emissions from the summation of all production processes, in pound of pollutant, considering the use of control equipment, which was estimated to be 0.597 lb PE/hr and 0.592 lbPM₁₀/hr;

PWR_{FEEDI} = the maximum process weight rate of the raw powder feed conveying processes associated with each of conveyor line nos. 1-3, which is 0.338 ton of material per hour (0.338 ton_{MTL}/hr) as stated in the application for PTI P0115631;

EF_{FEEDI} = the factor for the controlled pollutant emissions from the raw powder feed processes associated with each of conveyor line nos. 1-3, which is 0.58 lb PE/ton_{MTL} and 0.58 lb PM₁₀/ton_{MTL} from Table 6.1-4, AP42 Chap 6.1 (5/1983) from a pneumatic system vented to a bag filter for the raw powder feed system associated with each of conveyor line nos. 1-3 as stated in the application for PTI P0115631;

$CAPE_{FEEDI} = CAPE_i$ = efficiency of capture device i as specified for the capture hood(s) that service the raw powder feed processes associated with each of conveyor line nos. 1-3, which is 100% or 1.0 as stated in the application for PTI P0115631;

PWR_i = the maximum process weight rate of process i, in ton of material per hour, which is as specified for the following process types as stated in the application for PTI P0115631:

0.338 ton_{MTL}/hr for each of the super sack unloading processes associated with each of conveyor line nos. 1-3;

0.05 ton_{MTL}/hr for each of the 50 lb bag transfer to drum and minor material transfer processes associated with each of conveyor line nos. 1-3; and

0.45 ton_{MTL}/hr for the 50 lb bag transfer system and material transfer to super sack processes associated with the bulk bag loading station; and

E_{Fi} = the factor for uncontrolled pollutant emissions from process i, in pounds of pollutant per ton of material, as specified for the following process types as stated in the application for PTI P0115631:

0.12 lb PE_{UNCTRL}/ton_{MTL} and 0.06 lb PM_{10UNCTRL}/ton_{MTL} from Table 11.24-2, AP42 Chap 11.24 (8/1982) from material handling and transfer for the super sack unloading and 50 lb bag transfer to drum processes associated with each of conveyor line nos. 1-3;

0.12 lb PE_{UNCTRL}/ton_{MTL} and 0.06 lb PM_{10UNCTRL}/ton_{MTL} from Table 11.24-2, AP42 Chap 11.24 (8/1982) from each of the 50 lb bag transfer system and material transfer to super sack processes associated with the bulk bag loading station; and

$CAPE_i$ = efficiency of capture device i as specified for the following capture device types as stated in the application for PTI P0115631:

98% or 0.98, for (e.g. capture hood) for each super sack unloading process associated with conveyor line nos. 1-3;

95% or 0.95, for (e.g. capture hood) for each 50 lb bag transfer to drum process associated with conveyor line nos. 1-3;

98% or 0.98, for (e.g. capture hood) for the 50 lb bag transfer to system process associated with the bulk bag loading station; and

100% or 1.0 for all other process operations associated with this emissions unit;

CE_i = efficiency of primary control device i (e.g. DC-7 Bldg. 11 pulse jet fabric filter) which is 99% or 0.99, minor materials transfer, super sack unloading and 50 lb bag transfer to drum processes associated with each of conveyor line nos. 1-3 as stated in the application(s) for PTI P0115631; and

CE_i = efficiency of primary control device i (e.g. BBL-DF reverse pulse jet fabric filter) which is 99% or 0.99, for the 50 lb transfer system and materials transfer to a supersack processes associated with the bulk bag loading station as stated in the application(s) for PTI P0115631.

If required, compliance with the limitation(s) for the PE rate and the PM_{10} emissions shall be demonstrated in accordance with the following methods:

Methods 1 – 4, 40 CFR Part 60, Appendix A;

Method 5, 40 CFR Part 60, Appendix A for the PE rate; and

Method 201 or 201A for PM_{10} , 40 CFR Part 51, Appendix M.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

c. Emission Limitation:

The PM_{10} emissions shall not exceed 0.222 ton per month averaged over a 12-month rolling period from all process operations, combined.

Applicable Compliance Method:

Compliance shall be demonstrated based on the record keeping requirements specified in d)(5) for this emissions unit determined following the first 12 months of operation.

g) Miscellaneous Requirements

- (1) Emissions unit P132 was installed circa 1/01/2010 and is eligible for the Ohio Best Available Technology exemption (the less than 10 tons per year BAT exemption) per OAC paragraph 3745-31-05(A)(3)(a)(ii).

- (2) Materials at emissions unit P132 do not produce metallic mineral concentrates from ore. Emissions unit P132 is not subject to the requirements of 40 CFR Part 60, Subpart LL, the New Source Performance Standards for Metallic Mineral Processing Plants.
- (3) The DC-7 Bldg. 11 pulse jet fabric filter is employed to control the PE rate and PM₁₀ emissions from emissions unit P132.
- (4) The BBLS-DF reverse pulse jet fabric filter is employed to control the PE rate and PM₁₀ emissions from emissions unit P132.