☒ **Synthetic Minor Determination and/or** ☐ **Netting Determination**

Permit To Install **14-05722**

A. Source Description

W.R. Grace & Company is a metal oxide and silica gel producer located in Cincinnati, Ohio. The facility manufactures calcined metal oxides used in automotive catalytic converters, and silica gel products for various products.

B. Facility Emissions and Attainment Status

PE/PM10 emissions for the facility will be 50.93 TPY. NH_3 emissions from the facility will be 4.6 TPY. SO_2 emissions from the facility will be 0.57 TPY. CO emissions from the facility will be 3.1 TPY. NOx emissions from the facility will be 28.0 TPY. The facility will be synthetic minor for NOx. The facility is located in Hamilton County which is nonattainment for ozone.

C. Source Emissions

PE/PM10 emissions from the calciner feed hopper will be limited to 0.13 lbs/hr and 0.43 TPY. PE/PM10 emissions from the indirect rotary calciner and from the natural gas burner will be limited to 0.71 lbs/hr and 2.32 TPY. NH_3 emissions from the indirect rotary calciner will be limited to 1.1 lbs/hr and 3.44 TPY. SO_2 emissions from the indirect rotary calciner will be limited to 2.31 lbs/hr and 0.57 TPY. CO emissions from the natural gas burner will be limited to 0.084 lbs/MMBTU and 3.14 TPY. NOx emissions from the indirect rotary calciner and from the natural gas burner will be limited to 53.64 lbs/hr and 28.0 TPY.

D. Conclusion

The facility wants to process a new grade of mixed metal oxides that contain sulfur compounds which will result in sulfur dioxide emissions of less than one ton per year. The facility will keep monthly records to demonstrate compliance with the new SO_2 limitations. The facility will also keep original usage limitations for high NOx grade metal oxides to show compliance with OAC rule 3745-31-05(C) as well as the emissions limitations found in the last permit action. This source will remain a synthetic minor for NOx to avoid Major New Source Review and the Title V requirements.

OhioEPA

State of Ohio Environmental Protection Agency

RE: DRAFT PERMIT TO INSTALL **CERTIFIED MAIL**
HAMILTON COUNTY

Street Address: Mailing Address:
Lazarus Gov. Center **TELE:** (614) 644-3020 **FAX:** (614) 644-2329 Lazarus Gov. Center

Application No: 14-05722
Fac ID: 1431070001

DATE: 6/16/2005

WR Grace and Co CONN Grace Davison
Paul Laws
4775 Paddock Rd
Cincinnati, OH 452291003

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install may be issued in proposed of final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **$500** will be due. Please do not submit any payment now.

The Ohio EPA is urging 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 Pollution Prevention at (614) 644-3469. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA HCDES Ohio-Kentucky-Indiana Regional Planning Commission KY IN

HAMILTON COUNTY

PUBLIC NOTICE
ISSUANCE OF DRAFT PERMIT TO INSTALL **14-05722** FOR AN AIR CONTAMINANT SOURCE FOR
WR Grace and Co CONN Grace Davison

On 6/16/2005 the Director of the Ohio Environmental Protection Agency issued a draft action of a Permit To Install an air contaminant source for **WR Grace and Co CONN Grace Davison**, located at **4775 Paddock Rd, Cincinnati**, Ohio.

Installation of the air contaminant source identified below may proceed upon final issuance of Permit To Install 14-05722:

Chapter 31 modification to source P019 rotary calciner system.

Comments concerning this draft action, or a request for a public meeting, must be sent in writing to the address identified below no later than thirty (30) days from the date this notice is published. All inquiries concerning this draft action may be directed to the contact identified below.

Brad Miller, Hamilton County Department of Environmental Services, 250 William Howart Taft Pkwy, Cincinnati, OH 45219-2660 [(513)946-7777]

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install | **Issue Date: To be entered upon final issuance**
Terms and Conditions | **Effective Date: To be entered upon final issuance**

DRAFT PERMIT TO INSTALL 14-05722

Application Number:	14-05722
Facility ID:	1431070001
Permit Fee:	**To be entered upon final issuance**
Name of Facility:	WR Grace and Co CONN Grace Davison
Person to Contact:	Paul Laws
Address:	4775 Paddock Rd Cincinnati, OH 452291003

Location of proposed air contaminant source(s) [emissions unit(s)]:
4775 Paddock Rd
Cincinnati, Ohio

Description of proposed emissions unit(s):
Chapter 31 modification to source P019 rotary calciner system.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) 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 above described 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

Director

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

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 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 appropriate Ohio EPA District Office or local air agency. 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, i.e., 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.)

3. Records Retention Requirements

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.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. 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, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

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 of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of 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 emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. 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.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. 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 party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. 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 the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install 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.

10. 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.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. 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 this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons Per Year
PE/PM10	2.75
NOx	28.0
NH_3	3.44
SO_2	0.57
CO	3.14

Emissions Unit ID: **P019**

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements
P019 - Rotary calciner system	OAC rule 3745-31-05(A)(3)

Emissions Unit ID: **P019**

	Applicable Emissions Limitations/Control Measures	
	Particulate emissions (PE) and Particulate matter 10 microns and less (PM10) from the calciner feed hopper shall not exceed 0.13 pound per hour and 0.43 ton per year.	The requirements of this rule include compliance with the requirements of OAC rule 3745-17-10(B)(1), OAC rule 3745-21-08(B), OAC rule 3745-23-06(B) and 3745-31-05(C).
OAC rule 3745-31-05(C)	PE and PM10 from the indirect rotary calciner shall not exceed 0.71 pound per hour and 2.32 ton per year. PE = PM10	Nitrogen oxide (NOx) emissions from the indirect rotary calciner shall not exceed 28.0 tons per year, based on a rolling 12-month summation. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
OAC rule 3745-17-07(A)(1)	Ammonia (NH_3) emissions from the indirect rotary calciner shall not exceed 1.1 pounds per hour and 3.44 tons per year.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
OAC rule 3745-17-11(B)(1)	Sulfur dioxide (SO_2) emissions from the indirect rotary calciner shall not exceed 2.31 pounds per hour and 0.57 ton per year.	PE from the combustion of natural gas in this emissions unit shall not exceed 0.020 lb/MMBTU.
OAC rule 3745-17-10(B)(1)	Carbon monoxide (CO) emissions from the natural gas burner shall not exceed 0.084 pound per million BTU and 3.14 tons per year.	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
OAC rule 3745-18-06(E)(2)	Nitrogen oxide (NOx) emissions from the indirect rotary calciner shall not exceed 53.64 pounds per hour. See terms and conditions A.2.c. through A.2.e. and B.1. through B.4.	

2. Additional Terms and Conditions

2.a Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the mass emission limitations, a visible emission limitation, maximum production rate limitations, and use of a fabric filter.

2.b The hourly emission limitations outlined in term A.1. are based upon the emissions unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with these limits.

2.c Visible emissions from any stack shall not exceed 10 percent opacity, as a six-minute average.

2.d The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 14-05722.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

2.e The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 14-05722.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

B. Operational Restrictions

1. The maximum annual metal oxide production rate for this emissions unit shall not exceed 6875

tons, based upon a rolling, 12-month summation of the production rates. The permittee has existing records to demonstrate compliance with this requirement upon issuance of this permit.

2. The maximum annual production rate of high NOx grade metal oxides for this emissions unit shall not exceed 875 tons, based upon a rolling, 12-month summation of the production rates. The permittee has existing records to demonstrate compliance with this requirement upon issuance of this permit.

3. The maximum annual production rate of sulfur-containing metal oxides for this emissions unit shall not exceed 500 tons.

4. The pressure drop across the feed hopper exhaust fabric filter and the calciner exhaust fabric filter shall be maintained within the ranges established during the most recent emission test where compliance was demonstrated, or in accordance with the manufacturer's recommendations, at all times while the emissions unit is in operation.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain the following records each month:

   a. The high NOx grade metal oxides production rate for each month.

   b. The total metal oxides production rate for each month.

   c. The rolling, 12-month summation of the high NOx grade metal oxide production rate.

   d. The rolling, 12-month summation of the total metal oxide production rate.

   e. The rolling, 12-month summation of the NOx emissions, in tons.

   f. The sulfur-containing metal oxides production rate for each month.

2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across each fabric filter while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each fabric filter on a once per shift basis.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports to the Hamilton County

Department of Environmental Services which identify all exceedances of the rolling 12-month NOx emissions limitations listed in Section A.1. If no deviations occurred during the reporting period, the permittee shall state so in the report.

2. The permittee shall submit quarterly deviation (excursion) reports to the Hamilton County Department of Environmental Services which identify all exceedances of the rolling 12-month metal oxide production limitation listed in Section B.1. If no deviations occurred during the reporting period, the permittee shall state so in the report.

2. The permittee shall submit quarterly deviation (excursion) reports to the Hamilton County Department of Environmental Services which identify all exceedances of the rolling 12-month high NOx grade metal oxide production limitation listed in Section B.2. If no deviations occurred during the reporting period, the permittee shall state so in the report.

3. The permittee shall submit deviation (excursion) reports to the Hamilton County Department of Environmental Services which identify all exceedances of the pressure drop range listed in Section B.4.

4. The deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Terms and Conditions of this permit.

5. The permittee shall submit annual reports to the Hamilton County Department of Environmental Services which specify the nitrogen oxide emissions, the annual production rate of metal oxides, the annual production rate of high NOx grade metal oxides and the annual production rate of sulfur-containing metal oxides from emissions unit P019. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

E. Testing Requirements

1. Compliance with the emission limitations in Sections A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

   Emission Limitation:
   0.13 lb/hr of PE/PM10 from the calciner feed hopper
   0.43 TPY of PE/PM10 from the calciner feed hopper

   Applicable Compliance Method:
   The hourly and annual particulate emission rate from the calciner feed hopper is based on the emission unit's potential to emit. The hourly potential to emit was calculated by: (0.0188 grain/ft^3) x (800 ft^3/min) x (60 min/hr) x (1 lb/7000 grains). The annual potential to emit was calculated by: (0.13 lb/hr) x (6875 TPY/1.05 TPH production limitation) x (1 ton/2000 lbs).

Emissions Unit ID: **P019**

Emission Limitation:
0.71 lb/hr of PE/PM10 from the indirect rotary calciner
2.32 TPY of PE/PM10 from the indirect rotary calciner

Applicable Compliance Method:
The hourly and annual particulate emission rate from the indirect rotary calciner is based on the emission unit's potential to emit. The hourly potential to emit was calculated by: (0.02 grain/ft^3) x (2800 ft^3/min) x (60 min/hr) x (1 lb/7000 grains) added to (0.020 lb PE/MMBTU) x (11.4 MMBTU/hr.) The annual potential to emit was calculated by: (0.48 lb/hr) x (6875 TPY/1.05 TPH production limitation) x (1 ton/2000 lbs) added to (0.02 lb/MMBTU) x (11.4 MMBTU/hr) x ((6875 TPY/1.05 TPH production limitation) x 1 ton/2000 lbs).

Emission Limitation:
0.020 lb/MMBTU of PE from the combustion of natural gas in the indirect rotary calciner

Applicable Compliance Method:
If required, emissions testing shall be performed to determine compliance with the particulate emission limitation. The testing shall be conducted using the following method: Method 5 of 40 CFR, Part 60, Appendix A.

Emission Limitation:
53.64 lbs/hr of nitrogen oxides from the indirect rotary calciner
28.0 TPY of nitrogen oxides from the indirect rotary calciner

Applicable Compliance Method:
The hourly nitrogen oxide emission rate from the indirect rotary calciner was calculated by: (0.025 lb NOx/lbs high NOx product) x (2100 lbs high NOx product/hr) added to (0.1 lb NOx/MMBTU) x (11.4 MMBTU/hr.) The annual nitrogen oxide emission rate from the indirect rotary calciner was calculated by: [{(1,750,000 lbs high NOx product/yr) x (0.025 lb NOx/lbs high NOx product) x (1 ton/2000 lbs)} + {(12,000,000 lbs low NOx product/yr) x (0.0004 lb NOx/lbs low NOx product) x (1/2000lbs)}] added to (0.1 lb/MMBTU) x (11.4 MMBTU/hr) x ((6875 TPY/1.05 TPH production limitation) x 1 ton/2000 lbs).

Emission Limitation:
1.1 lbs/hr of ammonia from the indirect rotary calciner
3.44 TPY of ammonia from the indirect rotary calciner

Applicable Compliance Method:
The hourly ammonia emission rate from the indirect rotary calciner was calculated by: (2100 lbs product/hr) x (0.0005 lb NH_3/ lbs product). The annual ammonia emission rate from the indirect rotary calciner was calculated by: (2100 lbs product/hr) x (0.0005 lb NH_3/ lbs product) x (6875 TPY/1.05 TPH production limitation) x (1 ton/2000 lbs).

Emission Limitation:
2.31 lbs/hr sulfur dioxide from the indirect rotary calciner
0.57 TPY sulfur dioxide from the indirect rotary calciner

Applicable Compliance Method:
The hourly sulfur dioxide emission rate from the indirect rotary calciner was calculated by: (1.1 lbs SO_2/1000 lbs sulfur containing product) x (2100 lbs sulfur containing product/hr). The annual sulfur dioxide emission rate from the indirect rotary calciner was calculated by: (1,000,000 lbs sulfur containing product/yr) x (1.1 lbs SO_2/1000 lbs sulfur containing product) x (1 ton/2000 lbs) added to (0.0006 lb/MMBTU) x (11.4 MMBTU/hr) x ((6875 TPY/1.05 TPH production limitation) x 1 ton/2000 lbs).

Emission Limitation:
0.084 lb/MMBTU carbon monoxide from the natural gas burner
3.14 TPY carbon monoxide from the natural gas burner

Applicable Compliance Method:
The hourly carbon monoxide emission rate from the natural gas burner was calculated by: (84 lbs CO/MMft^3) / (1000 MMBTU/ft^3). The annual carbon monoxide emission rate from the natural gas burner was calculated by: (0.084 lb/MMBTU) x (11.4 MMBTU/hr) x ((6875 TPY/1.05 TPH production limitation) x 1 ton/2000 lbs).

Emission Limitation:
Visible particulate emissions from any stack shall not exceed ten percent (10%) opacity, as a six-minute average.

Applicable Compliance Method:
Compliance shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 2002.

2. Compliance with the operational restrictions in Section B. of these terms and conditions shall be determined in accordance with the following methods:

Production Limitation:
6875 tons of metal oxide product per year.

Applicable Compliance Method:
Compliance with the maximum annual metal oxide production limitation in term B.1. shall be demonstrated by the record keeping requirements specified in term C.1.

Production Limitation:
875 tons of high NOx grade metal oxides per year.

Applicable Compliance Method:
Compliance with the high NOx grade metal oxide limitation in term B.2. shall be demonstrated by the record keeping requirements specified in term C.1.

Production Limitation:
500 tons of sulfur-containing metal oxides per year.

Applicable Compliance Method:
Compliance with the sulfur-containing metal oxide limitation in term B.3. shall be demonstrated

by the record keeping requirements specified in term C.1.

Operational Limitation:
The pressure drop across the feed hopper exhaust fabric filter and the calciner exhaust fabric filter shall be maintained within the ranges established during the most recent emission test where compliance was demonstrated, or in accordance with the manufacturer's recommendations, at all times while the emissions unit is in operation.

Applicable Compliance Method:
Compliance with the pressure drop limitations in term B.4. shall be demonstrated by the record keeping requirements specified in term C.2.

F. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede the terms and conditions for emissions unit P019 in Permit to Install 14-04436 issued on March 18, 1998 and Permit to Install 14-03979 issued on March 6, 1996.

2. The following terms and conditions of this permit are federally enforceable: A, B, C, D, and E.

3. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.