Ohio Environmental Protection Agency
John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

Certified Mail

2/17/2012

Yes	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
Yes	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)

Mr. Joe Danneker
Skye Metal Recovery Inc
5513 Regency Oaks Drive N.
Mobile, AL 36609

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

Facility ID: 0684005004
Permit Number: P0108469
Permit Type: Initial Installation
County: Washington

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate (PTIO)for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of 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 permit. A public notice will appear in the Ohio EPA Weekly Review and the local newspaper, The Marietta Times. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page,www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
122 South Front Street
Columbus, Ohio 43215

and

Ohio EPA DAPC, Southeast District Office
2195 Front Street
Logan, OH 43138

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now.If you have any questions, please contact Ohio EPA DAPC, Southeast District Office at (740)385-8501.

Sincerely,

Michael W. Ahern

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

Cc: U.S. EPA Region 5*Via E-Mail Notification*
Ohio EPA-SEDO; Pennsylvania; West Virginia

PUBLIC NOTICE
2/17/2012 Issuance of Draft Air Pollution Permit-To-Install and Operate

Skye Metal Recovery Inc
10 Blue Knob Rd,
Warren Twp., OH 45750
Washington County
FACILITY DESC.: Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)
PERMIT #: P0108469
PERMIT TYPE: Initial Installation
PERMIT DESC: Initial installation of spent nickel catalyst and metal grinding processing operation, including hopper, conveyors, screener, crusher, 20 mmBtu/hr natural gas-fired kiln (controlled by a baghouse, cyclone, quench tower, and afterburner), and auger with bagging station.

The Director of the Ohio Environmental Protection Agency issued the draft permit above. The permit and complete instructions for requesting information or submitting comments may be obtained at: http://epa.ohio.gov/dapc/permitsonline.aspx by entering the permit # or: Cara Cherry, Ohio EPA DAPC, Southeast District Office, 2195 Front Street, Logan, OH 43138. Ph: (740)385-8501

Permit Strategy Write-Up

1. Check all that apply:

   _X_ Synthetic Minor Determination

   Netting Determination

2. Source Description: Skye Metal Recovery Inc. is located in Marietta, Ohio (Washington County). The facility is proposing to install equipment to process spent nickel catalyst and metal grinding by purifying (removal of Volatile Organic Compounds (VOCs) via heat) before the material is shipped to a secondary nickel smelting facility.

3. Facility Emissions and Attainment Status: The facility is located in Marietta, Ohio (Washington County) which is in non-attainment for PM2.5. In addition, the area is an Appendix A area per OAC rule 3745-17-01 and therefore has additional restrictions on fugitive sources. P901 is the only permitted source located at the facility at this time.

   Source Emissions: The proposed facility will include the following emission sources:

   stock piles – raw material will either be delivered in drums or will be stock piled inside of a building. The PTE calculations for this operation show Particulate Emissions (PE) below de minimus levels; therefore, this source of emissions was not included in the permit.

   unpaved roadways and parking – The process will use a small existing roadway/parking area at the site. The PTE calculations for this operation show PE below de minimus levels; therefore, this source of emissions was not included in the permit.

   Processing of spent nickel catalyst and metal grindings (P901) – includes hopper, conveyors, screener, crusher, 20 mmBtu natural gas fired kiln (controlled by a baghouse, cyclone, quench tower and afterburner) and auger with bagging station. Both the kiln combustion emissions and the kiln process emissions vent to a cyclone, baghouse, crossover, quench tower, and afterburner before exiting out of a single stack. The baghouse provides 100% capture and 99% control of PE. The kiln provides 100% capture and 50% destruction of VOC emissions from the process and the afterburner controls 99.4% VOC emissions from the kiln process and combustion before exiting the stack. Emissions of Hazardous Air Pollutants (HAPs) are below 1 TPY due to the hourly operation restriction discussed below; therefore modeling was not required.

4. The facility has requested a synthetic minor restriction to avoid Title V applicability for NO_xemissions. The facility has requested an operating hour restriction of 2,000 hours as a rolling, 12-month summation. Potential unrestricted and restricted emissions are provided below for P901:

	NOx	PE	SO2	CO	VOC	HAPs	CO_2e
Restricted	23.59	1.05	0.06	8.98	7.79	0.41	1,2823.53
Unrestricted	103.33	4.60	0.28	39.32	34.11	1.78	10,305.88

5. Conclusion: The operational restrictions, emissions limitations, recordkeeping, and reporting requirements in this permit provide federally enforceable limits that are sufficient to limit the potential to emit below Title V applicability.

6. Please provide additional notes or comments as necessary: None.

7. Total Permit Allowable Emissions Summary (for informational purposes only):

Pollutant	Tons Per Year
PE (fugitive)	0.13
PE (stack)	0.78
VOC	7.68
CO	8.98
SO_2	0.06
NOx	23.59
HAP (single)	0.41
HAP (total)	0.41
CO_2	12,823.53

Ohio | Environmental Protection Agency

DRAFT

Division of Air Pollution Control
Permit-to-Install and Operate
for
Skye Metal Recovery Inc

Facility ID:	0684005004
Permit Number:	P0108469
Permit Type:	Initial Installation
Issued:	2/17/2012
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance

Ohio Environmental Protection Agency

Division of Air Pollution Control
Permit-to-Install and Operate
for
Skye Metal Recovery Inc

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Authorization

Facility ID: 0684005004
Application Number(s): A0042348, A0043067, A0043346
Permit Number: P0108469
Permit Description: Initial installation of spent nickel catalyst and metal grinding processing operation, including hopper, conveyors, screener, crusher, 20 mmBtu/hr natural gas-fired kiln (controlled by a baghouse, cyclone, quench tower, and afterburner), and auger with bagging station.
Permit Type: Initial Installation
Permit Fee: $500.00*DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 2/17/2012
Effective Date: To be entered upon final issuance
Expiration Date: To be entered upon final issuance
Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

This document constitutes issuance to:

Skye Metal Recovery Inc
10 Blue Knob Rd
Warren Twp., OH 45750

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

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

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

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally
Director

Authorization (continued)

Permit Number: P0108469
Permit Description: Initial installation of spent nickel catalyst and metal grinding processing operation, including hopper, conveyors, screener, crusher, 20 mmBtu/hr natural gas-fired kiln (controlled by a baghouse, cyclone, quench tower, and afterburner), and auger with bagging station.

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

Emissions Unit ID:	**P901**
Company Equipment ID:	1S
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

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

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

2. Who is responsible for complying with this permit?

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

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

3. What records must I keep under this permit?

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

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

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

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

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

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

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

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is

very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

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

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

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

7. What reports must I submit under this permit?

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

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

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

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

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

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

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

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Ohio EPA DAPC, Southeast District Office in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

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

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

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

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

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

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting[1] a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

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

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

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

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

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

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

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

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

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

B. Facility-Wide Terms and Conditions

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

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

      (1) None.

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

      (1) None.

C. Emissions Unit Terms and Conditions

1. P901, Processing of spent nickel catalyst and metal grindings

Operations, Property and/or Equipment Description:

Processing of spent nickel catalyst and metal grindings – 1.5 tons/hour process includes 1 hopper, 4 conveyors, 1 drag conveyor, 2 screw conveyors, 1 screener, 1 crusher, 20 mmBtu/hr natural gas fired kiln (kiln combustion and process gasses are controlled by a baghouse, cyclone, quench tower and 89 mmBtu/hr natural gas fired afterburner) and 1 mixing auger with bagging station/roll off box station.

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

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

a. g)(1).

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

a. b)(1)d., c)(3), d)(7), e)(3), f)(1), f)(2)h. - k.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	The Nitrogen Oxides (NOx) emissions limitation established by this rule is equivalent to the NOx emissions limitation listed under OAC rule 3745-31-05(D).
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Particulate Emissions (PE) from the stack shall not exceed 0.78 lb per hour. Volatile Organic Compound (VOC) emissions from the stack shall not exceed 7.68 lbs per hour. Carbon Monoxide (CO) emissions from the stack shall not exceed 8.98 lbs per hour.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		There shall be no visible PE from any stack serving this emissions unit. There shall be no visible fugitive PE from the emissions unit (excluding the load-in hopper, crusher, and screener) or if the emissions unit is in a building there shall be no visible fugitive PE from the egress points (i.e., building windows, doors, etc.) serving this emissions unit. Visible PE of fugitive dust from the load-in hopper, crusher, or screener shall not exceed 0% opacity as a six-minute average. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A), OAC rule 3745-17-07(B), OAC rule 3745-17-08, OAC rule 3745-17-11, and OAC rule 3745-17-10. See b)(2)a. below.
c.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b. below.
d.	OAC rule 3745-31-05(D) (Synthetic minor restriction to avoid Title V applicability)	NOx emissions from the stack shall not exceed 23.59 tons per rolling, 12-month period. PE from the stack and fugitive combined shall not exceed 0.91 ton per rolling, 12-month period. VOC emissions from the stack shall not exceed 7.68 tons per rolling, 12-month period. CO emissions from the stack shall not exceed 8.24 tons per rolling, 12-month period. See c)(3) below.
e.	OAC rule 3745-17-11(B)	PE from the industrial process (excluding the combustion of natural gas) shall not exceed 2.25 lbs./hr. This emission limitation is less stringent

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		than the limitation listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-15 as part of the State Implementation Plan.
f.	OAC rule 3745-17-07(B)	Visible PE of fugitive dust shall not exceed 20% opacity, as a three-minute average. This visible PE of fugitive dust limitation is less stringent than the limitation listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-15 as part of the State Implementation Plan.
g.	OAC rule 3745-17-07(A)	Visible PE from the stack serving this emissions unit shall not exceed 20% opacity as a six-minute average, except as provided by the rule. This visible PE limitation is less stringent than the limitation listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-15 as part of the State Implementation Plan.
h.	OAC rule 3745-17-08(B)	The permittee shall employ reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust. See b)(2)c. below.
i.	OAC rule 3745-17-10(B)	PE from the fuel burning equipment shall not exceed 0.020 lb/mmBtu of actual heat input. This emissions limitation is less stringent than the limitations listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-15 as part of the State Implementation Plan.

(2) Additional Terms and Conditions

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

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

FEPTIO P0108469 for this air contaminant source takes into account the following voluntary restriction (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3):

i. The emissions from the kiln combustion and process shall be vented with a capture efficiency of 100% to a baghouse, cyclone, a quench tower, and an afterburner in series at all times the emissions unit is in operation.

ii. The baghouse shall have a minimum of 100% capture efficiency and 99% control efficiency of PM_{10} at all times the emissions unit is in operation. The kiln process shall have a minimum of 100% capture efficiency and 50% control efficiency of VOC at all times the emissions unit is in operation. The afterburner shall have a minimum of 100% capture efficiency and 99.4% control efficiency of VOC at all times the emissions unit is in operation;

iii. In accordance with the permittee's permit application, the bagging station/roll off box station shall be located inside of a building and all conveyors and transfer points shall be covered or enclosed while in operation;

iv. Stack and fugitive PM_{10} combined shall not exceed 0.82 ton per year, as a rolling 12-month summation:

v. CO emissions shall not exceed 8.24 tons per year, as a rolling, 12-month summation; and

vi. VOC emissions shall not exceed 7.68 tons per year as a rolling, 12-month summation.

c. The permittee shall employ reasonably available control measures on this emissions unit for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application,

the permittee shall employ a capture system, which includes enclosures that minimize or eliminate visible particulate emissions of fugitive dust at the point of capture to the extent possible with good engineering design and vents the emissions from the kiln combustion and kiln process to a baghouse that is capable of meeting the applicable requirements. In addition, in accordance with the permittee's permit application, the bagging station/roll off box station shall be located inside of a building and all conveyors and transfer points shall be covered or enclosed while in operation. Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance.

c) Operational Restrictions

(1) The emissions from the kiln combustion and process shall be vented with a capture efficiency of 100% to a baghouse, cyclone, a quench tower, and an afterburner in series at all times the emissions unit is in operation.

(2) The permittee shall burn only natural gas in this emissions unit.

(3) The maximum annual operating hours for this emissions unit shall not exceed 2,000, based upon a rolling, 12-month summation of the operating hours.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the operating hours levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Operating Hours
1	300
1-2	600
1-3	900
1-4	1,200
1-5	1,700
1-6	2,000
1-7	2,000
1-8	2,000
1-9	2,000
1-10	2,000
1-11	2,000
1-12	2,000

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual operating hours limitation shall be based upon a rolling, 12-month summation of the operating hours.

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, for any visible emission of fugitive dust from the emissions unit or if the emissions unit is in a building the egress points and any visible emissions from any stack(s) 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. the total duration of any visible emissions incident; and

c. any corrective actions taken to eliminate the visible emissions.

(3) The permittee shall properly install, operate, and maintain continuous temperature monitors and recorder(s) that measure the record(s) the exhaust temperature of the kiln when the emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the exhaust temperature on a continuous basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The acceptable temperature setting shall be a minimum of 600 degrees Fahrenheit until such time as any required performance testing is conducted and the appropriate temperature range is established to demonstrate compliance. These records shall be maintained at the facility for a period of no less than 3 years.

(4) The permittee shall properly install, operate, and maintain continuous temperature monitors and recorder(s) that measure the record(s) the temperature within the afterburner when the emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the combustion temperature within the afterburner on a continuous basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The acceptable temperature setting shall be a minimum of 1,450 degrees Fahrenheit (not including start-up or shut-down, or any idling period) until such time as any required performance testing is conducted and the appropriate temperature range is established to demonstrate compliance. These records shall be maintained at the facility for a period of no less than 3 years.

(5) Whenever the monitored exhaust temperature of the kiln deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range/limit specified in this permit, unless the permits determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the temperature readings immediately after the corrective action was implemented; and

f. the name(s) of the personnel who performed the work.

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

The temperature range/limit is effective for the duration of this permit, unless revisions are requires by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted temperature range/limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature range/limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) Whenever the monitored combustion temperature of the afterburner deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range/limit specified in this permit, unless the permits determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the temperature readings immediately after the corrective action was implemented; and

f. the name(s) of the personnel who performed the work.

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

The temperature range/limit is effective for the duration of this permit, unless revisions are requires by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted temperature range/limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature range/limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(7) The permittee shall maintain monthly records of the following information:

a. the operating hours for each month; and

b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the operating hours.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

e) Reporting Requirements

(1) 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.

(2) 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.

(3) The permittee shall submit quarterly deviation (excursion) reports that identify:

a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

i. all exceedances of the rolling, 12-month emissions limitation for NOx;

ii. all exceedances of the rolling, 12-month emissions limitation for PE;

iii. all exceedances of the rolling, 12-month emissions limitation for VOC;

iv. all exceedances of the rolling, 12-month emissions limitation for CO;

v. all exceedances of the rolling, 12-month limitation on the hours of operation for this emissions unit; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative hours of operation;

vi. each period of time (start time and date, and end time and date) when the exhaust temperature of the kiln was outside of the range specified in this permit and/or outside of the acceptable range following any required compliance demonstration;

vii. each period of time (start time and date, and end time and date) when the combustion temperature within the afterburner was outside of the range specified in this permit and/or outside of the acceptable range following any required compliance demonstration; and

viii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the afterburner.

b. the probable cause of each deviation (excursion);

c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and

d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to

March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

(4) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 3 months after start-up.

b. The emission testing shall be conducted to demonstrate compliance with the allowable concentration of PE, NOx, and VOC in the exhaust stack.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

Methods 1 – 5 for PE

Methods 1 - 4, and 18, 25, or 25A for VOC

Methods 1 - 4, and 7 for NOx. The test shall be conducted to determine the lb/hr emissions of NOx. Compliance shall be determined by multiplying the lb/hr emissions from the stack test by the maximum allowable cumulative operating hours of 2,000 then dividing by 2,000 lbs in order to determine the tons of NOx per year.

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

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

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the

proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

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

a. Emissions Limitation:

PE from the stack shall not exceed 0.78 lb per hour.

Applicable Compliance Method:

The emissions limitation was based on the following calculations:

<u>Kiln Process Emissions</u>

(7.4 lbs/ton)(1.5 tons/hour)(1.00)(1-.99) = 0.111 lb/hr

<u>Kiln Combustion Emissions</u>

7.6 lb/10^6 scfdivided by 1,020 = 0.0074510 lb/mmBtu

(0.0074510 lb/mmBtu)(20 mmBtu/hr)(1.00)(1-0.99) = 0.0015 lb/hr

<u>Afterburner Combustion Emissions</u>

7.6 lbs./10^6scf divided by 1,020 = 0.0074510 lb/mmBtu

(0.0074510 lb/mmBtu)(89 mmBtu/hr) = 0.663 lb/hr

<u>Total Stack Emissions</u>

0.111 lb/hr + 0.0015 lb/hr + 0.663 lb/hr = 0.78 lb/hr

Where:

7.4 lbs/ton = emissions factor from AP 42 Section 2.2, Table 2.2-9, 1/95

7.6 lbs/10^6scf = emissions factor from AP 42 Section 1.4, Table 1.4-2, 7/98

1.5 tons/hour = the maximum operating rate of equipment as submitted in application

20 mmBtu/hr = the maximum kiln rating as submitted in application

89 mmBtu/hr = the maximum afterburner rating as submitted in application

1.00 = capture efficiency as submitted in application

0.99 = control efficiency of the baghouse as submitted in application

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

b. Emissions Limitation:

VOC emissions from the stack shall not exceed 7.68 lbs per hour.

Applicable Compliance Method:

The emission limitation was based on the following calculations:

Kiln Process Emissions

(0.80)(1.5 tons/hour)(2,000 lbs/ton)(1-0.50)(1-0.994) = 7.20 lbs/hr

Kiln Combustion Emissions

5.5 lbs/10^6 scf divided by 1,020 = 0.00539216 lb/mmBtu

(0.00539216 lb/mmBtu)(20 mmBtu/hr)(1-0.994) = 0.0006 lb/hr

Afterburner Combustion Emissions

5.5 lbs/10^6scf divided by 1,020 = 0.00539216 lb/mmBtu

(0.00539216 lb/mmBtu)(89 mmBtu/hr) = 0.4799 lb/hr

Total Stack Emissions

7.20 lbs/hr + 0.0006 lb/hr + 0.4799 lb/hr = 7.68 lb/hr

Where:

5.5 lbs/10^6scf = emissions factor from AP 42 Section 1.4, Table 1.4-2, 7/98

1.5 tons/hour = the maximum operating rate of equipment as submitted in application

20 mmBtu/hr = the maximum kiln rating as submitted in application

89 mmBtu/hr = the maximum afterburner rating as submitted in application

0.80 = emissions factor for percent of VOC per ton of material as submitted in application

0.50 = control efficiency of kiln process as submitted in application

0.994 = control efficiency of afterburner as submitted in application

Volatile Organic compound emissions shall be determined according to test Methods 1 - 4, and 18, 25, or 25A, as appropriate, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

c. Emissions Limitation:

CO emissions from the stack shall not exceed 8.98 lbs per hour.

Applicable Compliance Method:

The emission limitation was based on the following calculations:

<u>Kiln Combustion Emissions</u>

84 lbs/10^6 scf divided by 1,020 = 0.082354 lb/mmBtu

(0.082354 lb/mmBtu)(20 mmBtu/hr) = 1.647 lbs/hr

<u>Afterburner Combustion Emissions</u>

84 lbs/10^6scf divided by 1,020 = 0.082353 lb/mmBtu

(0.082353 lb/mmBtu)(89 mmBtu/hr) = 7.329 lbs/hr

<u>Total Stack Emissions</u>

1.647 lbs/hr + 7.329 lbs/hr = 8.98 lbs/hr

<u>Where:</u>

84 lbs/10^6scf = emissions factor from AP 42 Section 1.4, Table 1.4-1, 7/98

20 mmBtu/hr = the maximum kiln rating as submitted in application

89 mmBtu/hr = the maximum afterburner rating as submitted in application

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

d. Emissions Limitation:

There shall be no visible PE from any stack serving this emissions unit.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 22.

e. Emissions Limitation:

There shall be no visible fugitive PE from the emissions unit (except for the load-in hopper, crusher, and screener) or if the emissions unit is in a building there shall be no visible fugitive PE from the egress points (i.e., building windows, etc.) serving this emissions unit.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 22.

f. Emissions Limitation:

Visible PE of fugitive dust from the load-in hopper, crusher, or screener shall not exceed 0% opacity as a 6-minute average.

Applicable Compliance Method:

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

g. Emissions Limitations:

PE from the industrial process (excluding the combustion of natural gas) shall not exceed 2.25 lbs./hr.

PE from the fuel burning equipment shall not exceed 0.020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Particulate emissions shall be determined according to test Methods 1-5, as set forth in the “Appendix on Test Methods” in 40 CFR, Part 60 “Standards of

Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

h. Emissions Limitation:

NOx emissions shall not exceed 23.59 tons per rolling, 12-month period.

Applicable Compliance Method:

The emissions limitation was based on the following calculations:

Kiln Process Emissions

(8.6 lbs/ton)(1.5 tons/hour)(2,000 hr/yr)(1 ton/2,000 lbs) = 12.9 ton/year

Kiln Combustion Emissions

100 lbs/10^6scf divided by 1,020 = 0.098039215 lb/mmBtu

(0.098039215 lb/mmBtu)(20 mmBtu/hr)(2,000 hr/yr)(1 ton/2,000 lbs) = 1.960784 tons/year

Afterburner Combustion Emissions

100 lb/10^6scf divided by 1,020 = 0.098039215 lb/mmBtu

(0.098039215 lb/mmBtu)(89 mmBtu/hr)(2,000 hr/yr)(1 ton/2,000 lbs) = 8.7255 tons/year

Total Stack Emissions

1.9608 tons/year + 8.7255 tons/year + 12.9 tons/year = 23.59 tons per rolling, 12-month period

Where:

8.6 lbs/ton = emissions factor from AP 42 Section 2.2, Table 2.2-9, 1/95

100 lbs./10^6 = emissions factor from AP 42 Section 1.4 Table 1.4-2, 7/98

1.5 tons/hour = the maximum operating rate of equipment as submitted in application

20 mmBtu/hr = the maximum kiln rating as submitted in application

89 mmBtu/hr = the maximum afterburner rating as submitted in application

Compliance shall be based on the above equation using the actual operating hours per rolling, 12-month period as recorded in d)(7).

Nitrogen oxides emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

i. Emissions Limitation:

PE from the stack and fugitive combined shall not exceed 0.91 tons per rolling, 12-month period.

PM_{10} from the stack and fugitive combined shall not exceed 0.82 tons per rolling, 12-month period.

Applicable Compliance Method:

The emissions limitations was based on the following calculations:

<u>Kiln Process Emissions</u>

(7.4 lbs/ton)(1.5 tons/hour)(1.00)(1-0.99)(2,000 hrs/yr)(1 ton/2,000 lbs) = 0.111 tons/year

<u>Kiln Combustion Emissions</u>

7.6 lbs/10^6scf divided by 1,020 = 0.0074510 lb/mmBtu

(0.0074510 lb/mmBtu)(20 mmBtu/hr)(1.00)(1-0.99)(2,000 hr/yr)(1 ton/2,000 lbs) = 0.0015 tons/year

<u>Afterburner Combustion Emissions</u>

7.6 lbs/10^6scf divided by 1,020 = 0.0074510 lb/mmBtu

(0.0074510 lb/mmBtu)(89 mmBtu/hr)(2,000 hr/yr)(1 ton/2,000 lbs) = 0.663 tons/year

<u>Total Stack Emissions</u>

0.111 tons/year + 0.0015 tons/year + 0.663 tons/year = 0.7755 tons of PE per rolling, 12-month period.

As submitted in application all PE from combustion was assumed to be PM_{10} and 90% of the PE from the kiln process was assumed to be PM_{10}, therefore:

0.0999 tons/year + 0.0015 tons/year + 0.663 tons/year = 0.7644 tons of PM_{10} per rolling, 12-month period.

<u>Where:</u>

7.4 lbs/ton = emissions factor from AP 42 Section 2.2, Table 2.2-9, 1/95

7.6 lbs/10^6scf = emissions factor from AP 42 Section 1.4, Table 1.4-2, 7/98

1.5 tons/hour = the maximum operating rate of equipment as submitted in application

20 mmBtu/hr = the maximum kiln rating as submitted in application

89 mmBtu/hr = the maximum afterburner rating as submitted in application

1.00 = capture efficiency as submitted in application

0.99 = control efficiency of the baghouse as submitted in application

Fugitive Emissions

Hopper load-in:

$EF = k \times (0.0032) \times [(U/5)^{1.3}/(M/2)^{1.4}]$

Where:

EF = PM emission factor expressed in pounds per ton
k = particle size multiplier for TSP (dimensionless) = 0.74
U =mean wind speed expressed in miles per hour (MPH) = 11
M = material moisture content (%) = 1

Therefore, EF = 0.01742 lb /ton

PM = [(# load-in points)(maximum annual throughput)(load-in EF)]/2,000 lbs/ton
= [(1)(3,000 tons/year)(0.01742 lb /ton)]/2,000 lb/ton
= 0.02613 tons per year uncontrolled PM

Where:

0.01742 lb/ton = emission factor for hopper load-in AP42 Section 11.19.2, Table 11.19.2-2, 8/04

Crushing:

PM=[(# of crushers)(maximum annual throughput)(PM EF)]/2,000 lbs/ton

PM = [(1)(3,000 tons per year)(0.0054 lb/ton)] X 1 ton/2,000 lbs

= 0.0081 tons per year uncontrolled PM

Where:

0.0054 lb/ton = emission factor for tertiary crushing uncontrolled AP 42 Section 11.19.2, Table 11.19.2-2, 8/04

Screening and Auger:

PM= [(# of screens and augers)(maximum annual throughput)(PM EF)]/2,000 lbs/ton

PM = [(2)(3,000 tons per year)(0.025 lb/ton)] X 1 ton/2,000 lbs

= 0.075 tons per year uncontrolled PM

Where:

0.025 lb/ton = emission factor for screening uncontrolled AP 42 Section 11.19.2, Table 11.19.2-2, 8/04

Transfer Points:

PM= [(# of conveyor transfer points)(maximum annual throughput)(PM EF)]/2,000 lbs/ton

PM = [(14)(3,000 tons per year)(0.003 lb/ton)] X 1 ton/2,000 lbs

= 0.063 tons per year uncontrolled PM

(0.063 tons per year)(1-.70) =0.0189 tons per year controlled PM

Where:

0.003 lb/ton = emission factor for transfer points uncontrolled AP 42 Section 11.19.2, Table 11.19.2-2, 8/04

0.70 = control efficiency for covering conveyors

Total Fugitive Emissions:

0.02613 + 0.0081 + 0.075 +0.0189 = 0.13 TPY

As submitted in application 50% of the PE from the process was assumed to be PM_{10}, therefore:

0.013065 + 0.00405 + 0.0375 + 0.00945 = 0.06 tons of PM_{10} per rolling, 12-month period.

Total Fugitive and Stack PE Combined:

0.78 + 0.13 = 0.91 tons of PE per rolling, 12-month period.

0.76 + 0.06 = 0.82 tons of PM_{10} per rolling, 12-month period.

Compliance shall be based on the above equations using the actual operating hours per rolling, 12-month period as recorded in d)(7) for the stack emissions and the above equations using the maximum 1.5 tons/hour process rating multiplied by the hours per rolling, 12-month period as recorded in d)(7) for the fugitive emissions.

j. Emissions Limitation:

VOC emissions shall not exceed 7.68 tons per rolling, 12-month period.

Applicable Compliance Method:

The emission limitation was based on the following calculations:

Kiln Process Emissions

(0.80)(1.5 tons/hour)(2,000 hours/year)(1-0.50)(1-0.994) = 7.20 tons/year

Kiln Combustion Emissions

5.5 lbs/10^6scf divided by 1,020 = 0.00539216 lb/mmBtu

(0.00539216 lb/mmBtu)(20 mmBtu/hr)(2,000 hours/year)(1-0.994)(1 ton/2,000 lbs) = 0.0006 tons/year

Afterburner Combustion Emissions

5.5 lbs/10^6scf divided by 1,020 = 0.00539216 lb/mmBtu

(0.00539216 lb/mmBtu)(89 mmBtu/hr)(2,000 hours/year)(1 ton/2,000 lbs) = 0.4799 tons/year

Total Stack Emissions

7.20 tons/year + 0.0006 tons/year + 0.4799 tons/year = 7.68 tons per rolling, 12-month period.

Where:

5.5 lbs/10^6scf = emissions factor from AP 42 Section 1.4, Table 1.4-2, 7/98

1.5 tons/hour = the maximum operating rate of equipment per submitted in application

20 mmBtu/hr = the maximum kiln rating as submitted in application

89 mmBtu/hr = the maximum afterburner rating as submitted in application

0.80 = emissions factor for percent of VOC per ton of material as submitted in application

0.50 = control efficiency of kiln process as submitted in application

0.994 = control efficiency of afterburner as submitted in application

Compliance shall be based on the above equation using the actual operating hours per rolling, 12-month period as recorded in d)(7).

k. Emissions Limitation:

CO emissions from the stack shall not exceed 8.98 tons per rolling, 12-month period.

Applicable Compliance Method:

The emission limitation was based on the following calculations:

Kiln Combustion Emissions

84 lbs/10^6 scf divided by 1,020 = 0.082354 lb/mmBtu

(0.082354 lb/mmBtu)(20 mmBtu/hr)(2,000 hours/yr)(1 ton/2,000 lbs) = 1.647 tons/year

Afterburner Combustion Emissions

84 lbs/10^6scf divided by 1,020 = 0.082353 lb/mmBtu

(0.082353 lb/mmBtu)(89 mmBtu/hr)(2,000 hours/yr)(1 ton/2,000 lbs) = 7.329 tons/year

Total Stack Emissions

1.647 tons/year + 7.329 tons/year = 8.976 tons per rolling, 12-month period.

Where:

86 lb/10^6scf = emissions factor from AP 42 Section 1.4, Table 1.4-1, 7/98

20 mmBtu/hr = the maximum kiln rating as submitted in application

89 mmBtu/hr = the maximum afterburner rating as submitted in application

Compliance shall be based on the above equation using the actual operating hours per rolling, 12-month period as recorded in d)(7).

l. Emissions Limitation:

Visible PE of fugitive dust shall not exceed 20% opacity as a three-minute average.

Applicable Compliance Method:

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

m. Emissions Limitation:

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

Applicable Compliance Method:

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

g) Miscellaneous Requirements

(1) 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 permittees to apply for and obtain a new or modified Permit-to-Install and Operate (PTIO) 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 PTIO.