

AIR QUALITY PERMIT

Permit No.
3295-165-0012-P-01-0

Effective Date
April 6, 2012

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Rules, Chapter 391-3-1, adopted pursuant to and in effect under that Act,

Facility Name: **CARBO Ceramics Inc. – Millen Facility**

Mailing Address: 575 N. Dairy Ashford, Suite 300
Houston, Texas 77079

is issued a Permit for the following:

The construction and operation of ceramic pellet manufacturing facility with associated air pollution equipment.

Facility Location: 3949 Highway 17 South
Millen, Georgia 30442 (Jenkins County)

This Permit is conditioned upon compliance with all provisions of The Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq, the Rules, Chapter 391-3-1, adopted and in effect under that Act, or any other condition of this Permit.

This Permit may be subject to revocation, suspension, modification or amendment by the Director for cause including evidence of noncompliance with any of the above; or for any misrepresentation made in Application No. 20615 dated August 15, 2011 and updated October 18, 2011; any other applications upon which this Permit is based; supporting data entered therein or attached thereto; or any subsequent submittals or supporting data; or for any alterations affecting the emissions from this source.

This Permit is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached 42 pages.

[Signed]

Director

Environmental Protection Division

Table of Contents

PART 1.0	FACILITY DESCRIPTION	1
1.1	Site Determination.....	1
1.2	Previous and/or Other Names.....	1
1.3	Overall Facility Process Description.....	1
PART 2.0	REQUIREMENTS PERTAINING TO THE ENTIRE FACILITY	2
2.1	Facility Wide Emission Caps and Operating Limits.....	2
2.2	Facility Wide Federal Rule Standards.....	3
2.3	Facility Wide SIP Rule Standards.....	3
2.4	Facility Wide Standards Not Covered by a Federal or SIP Rule and Not Instituted as an Emission Cap or Operating Limit	3
PART 3.0	REQUIREMENTS FOR EMISSION UNITS	4
3.1	Emission Units	4
3.2	Equipment Emission Caps and Operating Limits	9
3.3	Equipment Federal Rule Standards	11
3.4	Equipment SIP Rule Standards	16
3.5	Equipment Standards Not Covered by a Federal or SIP Rule and Not Instituted as an Emission Cap or Operating Limit	16
PART 4.0	REQUIREMENTS FOR TESTING.....	17
4.1	General Testing Requirements	17
4.2	Specific Testing Requirements.....	18
PART 5.0	REQUIREMENTS FOR MONITORING (RELATED TO DATA COLLECTION).....	25
5.1	General Monitoring Requirements.....	25
5.2	Specific Monitoring Requirements	25
PART 6.0	OTHER RECORD KEEPING AND REPORTING REQUIREMENTS.....	32
6.1	General Record Keeping and Reporting Requirements	32
6.2	Specific Record Keeping and Reporting Requirements.....	36

PART 1.0 FACILITY DESCRIPTION**1.1 Site Determination**

This is a greenfield site, which is not adjacent to any other manufacturing facilities.

1.2 Previous and/or Other Names

As this is a new facility, there are no previous names.

1.3 Overall Facility Process Description

The proposed facility will be a kaolin clay processing (ceramic proppant manufacturing) facility, to be located near the city of Millen, Georgia. The facility will have four processing lines, each equipped with two spray dryers and one calciner (kiln). The four lines can be operated independently. In addition to the dryers and kilns, the facility will have material handling equipment, such as, conveyors, screens, bucket elevators, process bins, silos and railcar loading operations.

PART 2.0 REQUIREMENTS PERTAINING TO THE ENTIRE FACILITY**2.1 Facility Wide Emission Caps and Operating Limits**

- 2.1.1 At all times, including periods of startup, shutdown, and malfunction, the Permittee shall maintain and operate this source, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection or surveillance of the source.
[391-3-1-.02(2)(a)10]
- 2.1.2 The Permittee shall not build, erect, install or use any article, machine, equipment or process the use of which conceals an emission, which would otherwise constitute a violation of an applicable emission standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged into the atmosphere.
[391-3-1-.03(2)(c)]
- 2.1.3 The Permittee shall submit a Georgia Air Quality Permit application to the Division prior to the commencement of any modification, as defined in 391-3-1-.01(pp), which may result in air pollution and which is not exempt under 391-3-1-.03(6). Such application shall be submitted sufficiently in advance of any critical date involved to allow adequate time for review, discussion, or revision of plans, if necessary. The application shall include, but not be limited to, information describing the precise nature of the change, modifications to any emission control system, production capacity and pollutant emission rates of the plant before and after the change, and the anticipated completion date of the change.
[391-3-1-.03(1) through (8)]
- 2.1.4 Unless otherwise specified, all records required to be maintained by this Permit shall be recorded in a permanent form suitable for inspection and submission to the Division and shall be retained for at least five (5) years following the date of entry.
[391-3-1-.03(2)(c)]
- 2.1.5 In cases where conditions of this Permit conflict with each other for any particular source or operation, the most stringent condition shall prevail.
[391-3-1-.02(2)(a)2]
- 2.1.6 At any time that the Division determines that additional control of emissions from the facility may reasonably be needed to provide for the continued protection of public health, safety and welfare, the Division reserves the right to amend the provisions of this Permit pursuant to the Division's authority as established in the Georgia Air Quality Act and the rules adopted pursuant to that Act.
[391-3-1-.03(3)(a)]

AIR QUALITY PERMIT

2.1.7 This permit authorizes construction and operation of the ceramic proppant manufacturing facility. The Permittee shall apply for a Part 70/Title V operation permit within 12 calendar months after commencing the operation of this facility.
[40 CFR 70.5(a)(1)(ii)]

2.1.8 Approval to construct this ceramic proppant manufacturing facility by this permit shall become invalid for any of the following reasons:

- a. The construction is not commenced within 18 months after issuance of this permit;
- b. The construction is discontinued for a period of 18 months or more; or
- c. The construction is not completed within a reasonable time.

The Division may extend the 18-month period upon a satisfactory showing that an extension is justified. For purposes of this permit, the definition of “commence” is given in 40 CFR 52.21(b)(9).

[40 CFR 52.21(r)]

2.1.9 If any of the emission standards or requirements in this permit is revised by EPA or the Division after the issuance of this permit, the Permittee shall comply with the revised standard(s) or requirement(s) on and after its effective date.

2.2 Facility Wide Federal Rule Standards

2.2.1 The Permittee shall implement measures, including fencing, sign postings, or routine patrols to restrict public access along the entire Source Boundary utilized in the ambient impact assessment/modeling. Signs shall be posted along the property boundary no further than 100 feet apart, and patrols shall be conducted at least once weekly on boundaries that have public access and where fencing is not provided. The Permittee shall maintain a written plan outlining such measures, and shall be updated as required. The Division reserves the right to require enhancement of the plan.

[40 CFR 52.21-PSD/BACT]

2.3 Facility Wide SIP Rule Standards

None applicable.

2.4 Facility Wide Standards Not Covered by a Federal or SIP Rule and Not Instituted as an Emission Cap or Operating Limit

None applicable.

AIR QUALITY PERMIT

CARBO Ceramics Inc. – Millen Facility

Permit No.: 3295-165-0012-P-01-0

PART 3.0 REQUIREMENTS FOR EMISSION UNITS

Note: Except where an applicable requirement specifically states otherwise, the averaging times of any of the Emissions Limitations or Standards included in this permit are tied to or based on the run time(s) specified for the applicable reference test method(s) or procedures required for demonstrating compliance.

3.1 Emission Units

Emission Units			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Emission Unit Group	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
SD01	Spray Dryer No. 1	---	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart UUU 40 CFR 52.21, PSD/BACT 112(g) case-by-case MACT, 40 CFR 63, Subpart B	3.2.1, 3.2.2, 3.3.3, 3.3.9, 3.3.12, 3.5.1, 3.5.2, 3.5.3, 4.2.1, 4.2.6, 4.2.7, 4.2.10, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.10, 6.1.7, 6.2.3, 6.2.4, 6.2.5, 6.2.6, 6.2.13, 6.2.14, 6.2.21, 6.2.22, 6.2.23	SB01, SB02, SB03, SB04	Baghouses
SD02	Spray Dryer No. 2	---			SB05, SB06, SB07, SB08	Baghouses
SD03	Spray Dryer No. 3	---			SB09, SB10, SB11, SB12	Baghouses
SD04	Spray Dryer No. 4	---			SB13, SB14, SB15, SB16	Baghouses
SD05	Spray Dryer No. 5	---			SB17, SB18, SB19, SB20	Baghouses
SD06	Spray Dryer No. 6	---			SB21, SB22, SB23, SB24	Baghouses
SD07	Spray Dryer No. 7	---			SB25, SB26, SB27, SB28	Baghouses
SD08	Spray Dryer No. 8	---			SB29, SB30, SB31, SB32	Baghouses
KLN1	Calciner No. 1	---	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart UUU 40 CFR 52.21, PSD/BACT 112(g) case-by-case MACT, 40 CFR 63, Subpart B	3.2.1, 3.2.2, 3.2.5, 3.3.3, 3.3.9, 3.3.12, 3.5.1, 3.5.2, 3.5.3, 4.2.1, 4.2.6, 4.2.7, 4.2.8, 4.2.9, 4.2.10, 4.2.11, 4.2.12, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.8, 5.2.9, 5.2.10, 6.1.7, 6.2.3, 6.2.13, 6.2.14, 6.2.15, 6.2.16, 6.2.17, 6.2.19, 6.2.21	KB01, KB02, KB03, KB04	Baghouses
KLN2	Calciner No. 2	---			SC01	Scrubber
					KB05, KB06, KB07, KB08	Baghouses
					SC02	Scrubber
KLN3	Calciner No. 3	---			KB09, KB10, KB11, KB12	Baghouses
KLN4	Calciner No. 4	---			SC03	Scrubber
					KB13, KB14, KB15, KB16	Baghouses
				SC04	Scrubber	
DSB1	Spray Dryer No. 1 Feed Bin	GP01	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(n) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart OOO 40 CFR 52.21, PSD/BACT	3.2.2, 3.3.2, 3.3.9, 3.5.1, 3.5.2, 3.5.3, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 5.2.7, 6.1.7, 6.2.7, 6.2.13	GPB1	Baghouse
DUB1	Spray Dryer No. 1 Unders Bin					
DSB2	Spray Dryer No. 2 Feed Bin					
DUB2	Spray Dryer No. 2 Unders Bin					
OC01	Overflow Conveyor No. 1					
ABC1	Accepts Belt Conveyor No. 1					
GPC1	Pellet Collection Conveyor No. 1					
GPT1	Pellet Transfer Conveyor No. 1					

AIR QUALITY PERMIT

CARBO Ceramics Inc. – Millen Facility

Permit No.: 3295-165-0012-P-01-0

GPE1	Pellet Bucket Elevator No. 1					
GSH1	Screen Surge Hopper No. 1					
GSC1	Pellet Screen No. 1-1					
GSC2	Pellet Screen No. 1-2					
GSC3	Pellet Screen No. 1-3					
OBC1	Oversize Collection Belt Conveyor No. 1					
ORB1	Oversize Surge Bin No. 1					
UBC1	Under Collection Belt Conveyor No. 1					
URC1	Under Reversible Belt Conveyor No. 1					
KFE1	Calciner No. 1 Feed Bin Bucket Elevator					
KFB1	Calciner No. 1 Feed Bin					
KRB1	Calciner No. 1 Recycle Feed Bin					
KRE1	Calciner No. 1 Recycle Feed Bin Bucket Elevator					
KFC1	Calciner No. 1 Feed Conveyor					
KCE1	Calciner No. 1 Cooler Bucket Elevator	KAE1	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(n) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart OOO 40 CFR 52.21, PSD/BACT	3.2.2, 3.3.2, 3.3.9, 3.5.1, 3.5.2, 3.5.3, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 5.2.7, 6.1.7, 6.2.7, 6.2.13	KNB1	Baghouse
KPS1	Calciner No. 1 Product Screen					
KFS1	Calciner No. 1 Fines Screen					
KQC1	Calciner No. 1 Product QC Bin A					
KQC2	Calciner No. 1 Product QC Bin B					
KQC3	Calciner No. 1 Product QC Bin C					
KQC4	Calciner No. 1 Product QC Bin D					
KCS1	Calciner No. 1 Product Screens DPCS					
KCS2	Calciner No. 1 Fines Screen DPCS					
RRL1	Railcar Loading Operations No. 1		391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(n) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart OOO 40 CFR 52.21, PSD/BACT	3.2.2, 3.3.2, 3.3.9, 3.5.1, 3.5.2, 3.5.3, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 5.2.7, 6.1.7, 6.2.7, 6.2.13	RCB1	Baghouse
BS01	Bulk Product Silo No. 1-1				BB01	Bin Vent Filter
BS02	Bulk Product Silo No. 1-2				BB02	Bin Vent Filter
BS03	Bulk Product Silo No. 1-3				BB03	Bin Vent Filter
BS04	Bulk Product Silo No. 1-4				BB04	Bin Vent Filter
BS05	Bulk Product Silo No. 1-5				BB05	Bin Vent Filter
DSB3	Spray Dryer No. 3 Feed Bin	GP02	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(n) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart OOO 40 CFR 52.21, PSD/BACT	3.2.2, 3.3.2, 3.3.9, 3.5.1, 3.5.2, 3.5.3, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 5.2.7, 6.1.7, 6.2.7, 6.2.13	GPB2	Baghouse
DUB3	Spray Dryer No. 3 Under Bin					
DSB4	Spray Dryer No. 4 Feed Bin					
DUB4	Spray Dryer No. 4 Under Bin					
OC02	Overflow Conveyor No. 2					
ABC2	Accepts Belt Conveyor No. 2					

AIR QUALITY PERMIT

CARBO Ceramics Inc. – Millen Facility

Permit No.: 3295-165-0012-P-01-0

GPC2	Pellet Collection Conveyor No. 2					
GPT2	Pellet Transfer Conveyor No. 2					
GPE2	Pellet Bucket Elevator No. 2					
GSH2	Screen Surge Hopper No. 2					
GSC4	Pellet Screen No. 2-1					
GSC5	Pellet Screen No. 2-2					
GSC6	Pellet Screen No. 2-3					
OBC2	Oversize Collection Belt Conveyor No. 2					
ORB2	Oversize Surge Bin No. 2					
UBC2	Under Collection Belt Conveyor No. 2					
URC2	Under Reversible Belt Conveyor No. 2					
KFE2	Calciner No. 2 Feed Bin Bucket Elevator					
KFB2	Calciner No. 2 Feed Bin					
KRB2	Calciner No. 2 Recycle Feed Bin					
KRE2	Calciner No. 2 Recycle Feed Bin Bucket Elevator					
KFC2	Calciner No. 2 Feed Conveyor					
KCE2	Calciner No. 2 Cooler Bucket Elevator	KAE2	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(n) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart OOO 40 CFR 52.21, PSD/BACT	3.2.2, 3.3.2, 3.3.9, 3.5.1, 3.5.2, 3.5.3, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 5.2.7, 6.1.7, 6.2.7, 6.2.13	KNB2	Baghouse
KPS2	Calciner No. 2 Product Screen					
KFS2	Calciner No. 2 Fines Screen					
KQC5	Calciner No. 2 Product QC Bin A					
KQC6	Calciner No. 2 Product QC Bin B					
KQC7	Calciner No. 2 Product QC Bin C					
KQC8	Calciner No. 2 Product QC Bin D					
KCS3	Calciner No. 2 Product Screens DPCS					
KCS4	Calciner No. 2 Fines Screen DPCS					
BS06	Bulk Product Silo No. 2-1		391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(n) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart OOO 40 CFR 52.21, PSD/BACT	3.2.2, 3.3.2, 3.3.9, 3.5.1, 3.5.2, 3.5.3, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 5.2.7, 6.1.7, 6.2.7, 6.2.13	BB06	Bin Vent Filter
BS07	Bulk Product Silo No. 2-2				BB07	Bin Vent Filter
BS08	Bulk Product Silo No. 2-3				BB08	Bin Vent Filter
BS09	Bulk Product Silo No. 2-4				BB09	Bin Vent Filter
BS10	Bulk Product Silo No. 2-5				BB10	Bin Vent Filter
DSB5	Spray Dryer No. 5 Feed Bin	GP03	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(n) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart OOO 40 CFR 52.21, PSD/BACT	3.2.2, 3.3.2, 3.3.9, 3.5.1, 3.5.2, 3.5.3, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 5.2.7, 6.1.7, 6.2.7, 6.2.13	GPB3	Baghouse
DUB5	Spray Dryer No. 5 Under Bin					
DSB6	Spray Dryer No. 6 Feed Bin					
DUB6	Spray Dryer No. 6 Under Bin					
OC03	Overflow Conveyor No. 3					

AIR QUALITY PERMIT

CARBO Ceramics Inc. – Millen Facility

Permit No.: 3295-165-0012-P-01-0

ABC3	Accepts Belt Conveyor No. 3					
GPC3	Pellet Collection Conveyor No. 3					
GPT3	Pellet Transfer Conveyor No. 3					
GPE3	Pellet Bucket Elevator No. 3					
GSH3	Screen Surge Hopper No. 3					
GSC7	Pellet Screen No. 3-1					
GSC8	Pellet Screen No. 3-2					
GSC9	Pellet Screen No. 3-3					
OBC3	Oversize Collection Belt Conveyor No. 3					
ORB3	Oversize Surge Bin No. 3					
UBC3	Under Collection Belt Conveyor No. 3					
URC3	Under Reversible Belt Conveyor No. 3					
KFE3	Calciner No. 3 Feed Bin Bucket Elevator					
KFB3	Calciner No. 3 Feed Bin					
KRB3	Calciner No. 3 Recycle Feed Bin					
KRE3	Calciner No. 3 Recycle Feed Bin Bucket Elevator					
KFC3	Calciner No. 3 Feed Conveyor					
KCE3	Calciner No. 3 Cooler Bucket Elevator	KAE3	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(n) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart OOO 40 CFR 52.21, PSD/BACT	3.2.2, 3.3.2, 3.3.9, 3.5.1, 3.5.2, 3.5.3, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 5.2.7, 6.1.7, 6.2.7, 6.2.13	KNB3	Baghouse
KPS3	Calciner No. 3 Product Screen					
KFS3	Calciner No. 3 Fines Screen					
KQC9	Calciner No. 3 Product QC Bin A					
KQ10	Calciner No. 3 Product QC Bin B					
KQ11	Calciner No. 3 Product QC Bin C					
KQ12	Calciner No. 3 Product QC Bin D					
KCS5	Calciner No. 3 Product Screens DPCS					
KCS6	Calciner No. 3 Fines Screen DPCS					
PBC3	Calciner No. 3 Product Screen Belt Conveyor		391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(n) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart OOO 40 CFR 52.21, PSD/BACT	3.2.2, 3.3.2, 3.3.9, 3.5.1, 3.5.2, 3.5.3, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 5.2.7, 6.1.7, 6.2.7, 6.2.13	---	---
PBE3	Calciner No. 3 Product Screen Bucket Elevator				---	---
FBC3	Calciner No. 3 Fines Screen Belt Conveyor				---	---
FBE3	Calciner No. 3 Fines Screen Bucket Elevator				---	---
RRL2	Railcar Loading Operations No. 2				RCB2	Baghouse
BS11	Bulk Product Silo No. 3-1				BB11	Bin Vent Filter
BS12	Bulk Product Silo No. 3-2				BB12	Bin Vent Filter
BS13	Bulk Product Silo No. 3-3				BB13	Bin Vent Filter

AIR QUALITY PERMIT

CARBO Ceramics Inc. – Millen Facility

Permit No.: 3295-165-0012-P-01-0

BS14	Bulk Product Silo No. 3-4				BB14	Bin Vent Filter
BS15	Bulk Product Silo No. 3-5				BB15	Bin Vent Filter
DSB7	Spray Dryer No. 7 Feed Bin	GP04	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(n) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart OOO 40 CFR 52.21, PSD/BACT	3.2.2, 3.3.2, 3.3.9, 3.5.1, 3.5.2, 3.5.3, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 5.2.7, 6.1.7, 6.2.7, 6.2.13	GPB4	Baghouse
DUB7	Spray Dryer No. 7 Under Bin					
DSB8	Spray Dryer No. 8 Feed Bin					
DUB8	Spray Dryer No. 8 Under Bin					
OC04	Overflow Conveyor No. 4					
ABC4	Accepts Belt Conveyor No. 4					
GPC4	Pellet Collection Conveyor No. 4					
GPT4	Pellet Transfer Conveyor No. 4					
GPE4	Pellet Bucket Elevator No. 4					
GSH4	Screen Surge Hopper No. 4					
GS10	Pellet Screen No. 4-1					
GS11	Pellet Screen No. 4-2					
GS12	Pellet Screen No. 4-3					
OBC4	Oversize Collection Belt Conveyor No. 4					
ORB4	Oversize Surge Bin No. 4					
UBC4	Under Collection Belt Conveyor No. 4					
URC4	Under Reversible Belt Conveyor No. 4					
KFE4	Calciner No. 4 Feed Bin Bucket Elevator					
KFB4	Calciner No. 4 Feed Bin	KAE4	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(n) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart OOO 40 CFR 52.21, PSD/BACT	3.2.2, 3.3.2, 3.3.9, 3.5.1, 3.5.2, 3.5.3, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 5.2.7, 6.1.7, 6.2.7, 6.2.13	KNB4	Baghouse
KRB4	Calciner No. 4 Recycle Feed Bin					
KRE4	Calciner No. 4 Recycle Feed Bin Bucket Elevator					
KFC4	Calciner No. 4 Feed Conveyor					
KCE4	Calciner No. 4 Cooler Bucket Elevator					
KPS4	Calciner No. 4 Product Screen					
KFS4	Calciner No. 4 Fines Screen					
KQ13	Calciner No. 4 Product QC Bin A					
KQ14	Calciner No. 4 Product QC Bin B					
KQ15	Calciner No. 4 Product QC Bin C					
KQ16	Calciner No. 4 Product QC Bin D					
KCS7	Calciner No. 4 Product Screen DPCS		391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	3.2.2, 3.3.2, 3.3.9, 3.5.1, 3.5.2, 3.5.3, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 5.2.2, 5.2.3,	---	---
KCS8	Calciner No. 4 Fines Screen DPCS					
PB04	Line No. 4 Product Belt					
BS16	Bulk Product Silo 4-1				BB16	Bin Vent Filter

AIR QUALITY PERMIT

CARBO Ceramics Inc. – Millen Facility

Permit No.: 3295-165-0012-P-01-0

BS17	Bulk Product Silo 4-2		391-3-1-.02(2)(n) 391-3-1-.02(2)(p)1 40 CFR 60, Subpart OOO 40 CFR 52.21, PSD/BACT	5.2.4, 5.2.7, 6.1.7, 6.2.7, 6.2.13	BB17	Bin Vent Filter
BS18	Bulk Product Silo 4-3				BB18	Bin Vent Filter
BS19	Bulk Product Silo 4-4				BB19	Bin Vent Filter
BS20	Bulk Product Silo 4-5				BB20	Bin Vent Filter
BLR1	Boiler No. 1	---	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 40 CFR 52.21, PSD/BACT 112(g) case-by-case MACT/40 CFR 63, Subpart B	3.2.1, 3.2.2, 3.3.8, 3.3.9, 3.4.2, 6.2.3, 6.2.13, 6.2.19, 6.2.21	N/A	N/A
BLR2	Boiler No. 2	---				
BLR3	Boiler No. 3	---				
BLR4	Boiler No. 4	---				
EDG1	Emergency Generator No.1	---	391-3-1-.03(6)(b)(v)(11)(1) 40 CFR 52.21, PSD/BACT 40 CFR 63, Subpart ZZZZ 40 CFR 60, Subpart IIII	3.2.1, 3.2.2, 3.2.4, 3.3.4, 3.3.5, 3.3.6, 3.3.7, 3.3.9, 3.3.10, 5.2.6, 6.1.7, 6.2.9, 6.2.10, 6.2.11, 6.2.12, 6.2.13, 6.2.19, 6.2.20	N/A	N/A
EDG2	Emergency Generator No.2	---				
EDG3	Emergency Generator No.3	---				
EDG4	Emergency Generator No.4	---				

* Generally applicable requirements contained in this permit may also apply to emission units listed above. The lists of applicable requirements/standards and corresponding permit conditions are intended as a compliance tool and may not be definitive.

3.2 Equipment Emission Caps and Operating Limits

3.2.1 The Permittee shall fire all boilers, spray dryers and calciners with natural gas or propane only.

[40 CFR 52.21-PSD/BACT, 391-3-1-.02(2)(g) subsumed]

3.2.2 The Permittee shall use the following technologies and/or procedures to comply with the BACT emission limits:

[40 CFR 52.21-PSD/BACT]

a. NO_x emissions:

i. Good Combustion Techniques, such as equipment design, maintenance, and combustion process control such as appropriate combustion temperature, air to fuel ratio, staged and/or controlled combustion that can lower the NO_x emissions;

ii. Low NO_x burners;

iii. Use of only “clean fuels”, i.e., natural gas and propane and low-sulfur diesel.

b. Stack PM emissions:

i. Fabric filters, scrubbers, baghouses or bin vents.

c. Fugitive Emissions:

i. Wet suppression or timely cleanup, or

ii. Enclosure of working spaces if necessary, or

AIR QUALITY PERMIT

- iii. Covering of storage piles and trucks, if necessary.
- d. SO₂ Emissions:
 - i. Use of only “clean fuels”, i.e., natural gas, propane and low-sulfur diesel.
 - ii. The use of wet scrubbers (SC01, SC02, SC03 and SC04), for calciners (KLN1, KLN2, KLN3 and KLN4) to control SO₂ emissions
- e. CO Emissions
 - i. Equipment design, maintenance and combustion process control with good operating practices (i.e., adequate combustion temperature, residence time and/or excess air, etc.) that can lower the CO emissions.
- f. GHG Emissions
 - i. Use of low carbon-density fuel (natural gas and propane).
 - ii. Good Combustion Techniques (equipment design, maintenance, and combustion process control such as appropriate combustion temperature, air to fuel ratio, and air/fuel mixing that can reduce fuel usage by increasing combustion efficiency thus fuel efficiency).
 - iii. Good equipment thermal/heat insulation.
 - iv. Heat/thermal energy recovery when feasible.

The Permittee shall develop and submit written operation, inspection and maintenance procedures and work practice plans with regard to subparagraphs a, b, c, d, e and f of this condition. These procedures and plans shall be developed and implemented to ensure the satisfaction of the applicable operating requirements in this condition. All inspection and maintenance activities shall be recorded in a permanent form suitable for inspection and submission to the Division.

- 3.2.3 The Permittee shall implement measures to remove clay residue from facility roads, including, at a minimum, cleaning the roads at least weekly. The Permittee may use a vacuum street sweeper(s) and a truck washing station(s) to prevent accumulation of fugitive dusts on paved roads used to haul raw materials into the facility.
[40 CFR 52.21 - PSD/BACT]
- 3.2.4 The annual operating time for each of the stationary emergency diesel generators (Emissions Unit ID Nos. EDG1, EDG2, EDG3 and EDG4) shall not exceed 500 hours per rolling 12 month period.
[391-3-1-.03(6)(b)(11)(v)(l)]

- 3.2.5 The Permittee shall not discharge or cause the discharge into the atmosphere from each calciner (KLN1, KLN2, KLN3, and KLN4) H₂SO₄ emissions in excess of 0.39 pounds per hour.
[40 CFR 52.21 – PSD Avoidance]

3.3 Equipment Federal Rule Standards

- 3.3.1 The Permittee shall comply with all applicable provisions of the New Source Performance Standards (NSPS) as found in 40 CFR 60 Subpart A, “*General Provisions*” for operation of all emission sources subject to NSPS standards.
[40 CFR 60 Subpart A]
- 3.3.2 The Permittee shall comply with the provisions of 40 CFR, Part 60, Subpart OOO, “*Standards of Performance for Nonmetallic Mineral Processing Plants*” as amended on April 28, 2009 for all subject equipment {for reference, see listing in Section 3.1}. In particular, the Permittee shall comply with the following for each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, silo, enclosed truck or railcar loading station or any other affected facilities as defined in 40 CFR 60.670 and 60.671:
[40 CFR 60.672 (a) thru (f)]

The Permittee shall not discharge or cause the discharge into the atmosphere, from each affected facility/source subject to 40 CFR 60 Subpart OOO, any

- a. fugitive emissions (including those escaping capture systems) exhibiting greater than 7 percent opacity except for any crusher that does not use a capture system, which shall not exhibit fugitive emissions greater than 12 percent opacity.
- b. stack emissions from capture systems feeding a dry control device which contain particulate matter in excess of 0.032 g/dscm (0.014 grains/dscf) except for individually enclosed storage bins.

For any transfer point on a conveyor belt or any other affected facility enclosed in a building, each enclosed affected facility shall comply with the emission limits in paragraphs (a) and (b) of this condition, **or** the building shall comply with the following emission limits:

- c. Fugitive emissions from the building openings (except vents with mechanically induced air flow for exhausting PM emissions from the building) shall not exceed 7 percent opacity.
- d. PM emissions from any building vent with mechanically induced air flow for exhausting PM emissions shall not contain particulate matter in excess of 0.032 g/dscm (0.014 grains/dscf).

Note:

Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this condition.

AIR QUALITY PERMIT

Any dry control device that, controls emissions from an individually enclosed storage bin is exempt from the stack PM concentration limit (and associated performance testing) in paragraph (b) but shall not exhibit greater than 7 percent stack opacity.

- 3.3.3 The Permittee shall comply with all the applicable provisions of 40 CFR, Part 60, Subpart UUU, “*Standards of Performance for Calciners and Dryers in Mineral Industries*,” for all subject equipment {for reference, see listing in Section 3.1 above}. In particular, sources subject to Subpart UUU, the Permittee shall comply with the following conditions for each calciner and dryer:
[40 CFR 60.732(a) & (b)]

The Permittee shall not discharge or cause the discharge into the atmosphere, from each of the processing equipment subject to 40 CFR, Part 60, Subpart UUU, any gases which:

- a. Contain particulate matter in excess of 0.04 grains/dscf (0.092 grams/dscm) for calciners and dryers installed in series.
- b. Contain particulate matter in excess of 0.025 grains/dscf (0.057 grams/dscm) for dryers.
- c. Exhibit greater than 10 percent opacity.

- 3.3.4 The Permittee shall comply with all the applicable provisions of 40 CFR, Part 60, Subpart IIII, “*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*.” In particular, the Permittee shall limit the accumulated maintenance check and readiness testing time for each emergency stationary diesel generator (Emissions Unit ID Nos. EDG1, EDG2, EDG3 and EDG4) to 100 hours per year. The Permittee may petition the Division for approval of additional hours for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of the emergency stationary diesel generators beyond 100 hours per year. Any operation other than emergency power generation, and maintenance check and readiness testing is prohibited.
[40 CFR 60.4211(f)]

- 3.3.5 Each emergency stationary diesel generator (Emissions Unit ID Nos. EDG1, EDG2, EDG3 and EDG4) shall be certified for emission standards for new non-road compress ignition engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants, operated and maintained according to the manufacturer’s written specifications/ instructions or procedures developed by the Permittee that are approved by the engine manufacturer, over the entire life of the engine. The Permittee may only change diesel generator settings that are permitted by the manufacturer.
[40 CFR 52.21 PSD/BACT, 40 CFR 60.4202(a)(2), 60.4205 subsumed, 60.4206, 60.4211(a) and 60.4211(b)(1)and 60.4211(c)]

- 3.3.6 Except as provided under 40 CFR 60.4211 (g)(3), each emergency stationary diesel generator (Emissions Unit ID Nos. EDG1, EDG2, EDG3 and EDG4) and any associated control devices shall be installed and configured according to the manufacturer’s written instructions. [40 CFR 60.4211(c)]

AIR QUALITY PERMIT

- 3.3.7 The Permittee shall comply with all the applicable provisions of 40 CFR Part 63, Subpart ZZZZ, “*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*”. In particular, the Permittee shall operate each emergency stationary diesel generators (Emissions Unit ID Nos. EDG1, EDG2, EDG3 and EDG4) only in an emergency situation such as to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility is interrupted, or to pump water in the case of fire or flood, etc. It may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the diesel generator.
[40 CFR 63.6590(b)(i)]
- 3.3.8 The Permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, the boiler MACT, 40 CFR 63, Subpart DDDDD.
- 3.3.9 Emissions from each of the listed process units shall comply with the following pertinent BACT limits:
[40 CFR 52.21 - PSD/BACT]

TABLE 3.3.9-1: BACT Emission Limits

Process Unit	Pollutant	Emission Limit	Compliance Method	Averaging Time
Each calciner	PM/PM ₁₀ /PM _{2.5}	0.010 gr./dscf not to exceed 2.76 lb/hr	Method 5 and Method 202 or Method 201/201A and Method 202, as necessary.	3 hours
Each calciner	GHG	36,715 tpy CO ₂ e	Natural gas/LPG usage records and Division approved emission factors	12 month rolling total
Each spray dryer	PM/PM ₁₀	0.020 gr./dscf, not to exceed 4.54 lb/hr	Method 5 and Method 202 or Method 201/201A and Method 202, as necessary.	3 hours
	Filterable PM/PM ₁₀	0.010 gr./dscf	Method 5 and Method 201 or 201A, as applicable	
	PM _{2.5}	0.0075 gr./dscf, not to exceed 1.70 lb/hr	Method 5 and Method 202 or Method 201/201A and Method 202, as necessary.	
Each spray dryer	GHG	28,760 tpy CO ₂ e	Natural gas/LPG usage records and Division approved emission factors	12 month rolling total
Each spray dryer and calciner	Visible Emissions	10% opacity	COMS or Method 9	6-minute average
All of the emission units with baghouse controls excluding spray dryers and	PM/PM ₁₀	0.010 gr./dscf	Method 5 or Method 201/201A and Method 202, as necessary.	3 hours
	PM _{2.5}	0.005 gr./dscf		

AIR QUALITY PERMIT

CARBO Ceramics Inc. – Millen Facility

Permit No.: 3295-165-0012-P-01-0

Process Unit	Pollutant	Emission Limit	Compliance Method	Averaging Time
calciners	Visible Emissions	7% opacity	Method 9	6-minute average
All fugitive sources	Visible Emissions	10% opacity	Method 9	Per Method 9
Each calciner	SO ₂	No less than 90% overall control, by weight	Method 6 or 6C	3 hours
		Not to exceed 34.25 lbs/hr		
	NO _x	Not to exceed 121.0 lbs/hr	Method 7 or 7E	3 hours
	CO	Not to exceed 24.7lbs/hr.	Method 10	3 hours
Each spray dryer	NO _x	Not to exceed 8.3 lbs/hr.	Method 7 or 7E	3 hours
	CO	Not to exceed 16.6 lbs/hr.	Method 10	3 hours
	VOC	Not to exceed. 6.82 tons/year	Mass balance calculation	Daily average
Each 9.8 MMBtu/hr natural gas fired boilers Nos. 1, 2, 3 and 4	NO _x	12 ppmv@ 3% O ₂ at dry standard conditions	Manufacturer's written guarantee	N/A
Each 9.8 MMBtu/hr natural gas fired boilers Nos. 1, 2, 3 and 4	GHG	5,997 tpy CO ₂ e	Natural gas/LPG usage records and Division approved emission factors	12 month rolling total
Emergency diesel generators/engines Nos. 1, 2, 3 and 4	PM/PM ₁₀ /PM _{2.5}	0.055 g/bhp-hr	Operation and maintenance according to manufacturer's written specifications	N/A
	GHG	844 tpy CO ₂ e	Monthly operating records and Division approved emission factors	12 month rolling total
	SO ₂	15 ppm sulfur in fuel	Verification of sulfur limit for each fuel shipment received	N/A
	NO _x	4.77g/bhp-hr	Operation and maintenance according to manufacturer's written specifications	N/A
	CO	2.6 g/bhp-hr	Operation and maintenance according to manufacturer's written specifications	N/A

The following applicable State rules or emission limits are subsumed by the applicable and more stringent BACT or NSPS emission limits:

- Georgia Air Quality Rule 391-3-1-.02(2)(b): “Visible Emissions”

AIR QUALITY PERMIT

- Georgia Air Quality Rule 391-3-1-.02(2)(p): “*Particulate Emission from Kaolin and Fuller’s Earth Processes*”
 - Georgia Rule 391-3-1-.02(2)(g): “*Sulfur Dioxide*”
 - Georgia Air Quality Rule 391-3-1-.02(2)(n)2: “*Fugitive Dust*”
- 3.3.10 The Permittee shall operate each stationary emergency diesel generator (Emissions Unit ID Nos. EDG1, EDG2, EDG3 and EDG4) using diesel fuel that has a maximum sulfur content of 15 parts per million (ppm) (0.0015% by weight) and either a minimum cetane index of 40 or maximum aromatic content of 35 volume percent.
[40 CFR 52.21 – PSD /BACT, 40 CFR 60.4207(a) & 60.4207(b)]
- 3.3.11 The Permittee shall comply with all applicable provisions of the National Emission Standard for Hazardous Air Pollutants (NESHAP) as found in 40 CFR Part 63, Subpart B – “*Requirements for Control Technology Determinations for Major Sources in Accordance With Clean Air Act Sections 112(g)*”.
[40 CFR 63, Subpart B]
- 3.3.12 Emissions of hazardous air pollutants (HAPs) shall not exceed the following 112(g) case-by-case MACT emission standards: [40 CFR 63.40 through 63.44/112(g) case-by-case MACT]

Table 3.3-1: 112(g) Case-By-Case MACT Emission Limit

Affected Source	HAP	Emission Limit	Averaging Time	Compliance Method
Spray Dryers Nos. 1 & 2	Methanol	0.48 lbs/ton of kiln feed Not to exceed 10.04 tons per year	Monthly for the kiln feed limit and 12-month rolling total for the annual limit	Mass balance based on kiln feed and methanol-containing additive input records and MSDS
Spray Dryers Nos. 3 & 4		0.48 lbs/ton of kiln feed Not to exceed 10.04 tons per year		
Spray Dryers Nos. 5 & 6		0.48 lbs/ton of kiln feed Not to exceed 10.04 tons per year		
Spray Dryers Nos. 7 & 8		0.48 lbs/ton of kiln feed Not to exceed 10.04 tons per year		
Each Calciner	HCl	Not to exceed 1.98 lbs/hr and no less than 90 % reduction by weight	3 hours	Method 26 or 26A
		Not to exceed 8.70 tons per year	12-month rolling total	Calculation based on annual testing result & production records
	HF	Not to exceed 8.70 lbs/hr and no less than 90 % reduction by weight	3 hours	Method 26 or 26A
		37.92 tons per year	12-month rolling total	Calculation based on annual testing result & production records

3.4 Equipment SIP Rule Standards

- 3.4.1 The Permittee shall take all reasonable precautions to prevent fugitive dust from becoming airborne. Reasonable precautions that should be taken to prevent dust from becoming airborne include, but are not limited to, the following:
[391-3-1-.02(2)(n)1]
- a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;
 - b. Application of asphalt, water, or suitable chemicals on dirt roads, materials, stockpiles, and other surfaces that can give rise to airborne dusts;
 - c. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods can be employed during sandblasting or other similar operations;
 - d. Covering, at all times when in motion, open bodied trucks, transporting materials likely to give rise to airborne dusts; and
 - e. The prompt removal of earth or other material from paved streets onto which earth or other material has been deposited.
- 3.4.2 The Permittee shall not cause, let, suffer, permit, or allow any emissions from each boiler (Emission Unit ID Nos. BLR1, BLR2, BLR3 and BLR4) which:
- a. Contain fly ash and/or other particulate matter in amounts equal to or exceeding 0.5 pounds per million BTU heat input.
[391-3-1-.02(2)(d)2.(i)] [Vault GA-001-EL, 02/10]
 - b. Exhibit visible emissions, the opacity of which is equal to or greater than 20 percent except for one six minute period per hour of not more than 27 percent opacity.
[391-3-1-.02(2)(d)3.] [Vault GA-001-EL, 02/10]

3.5 Equipment Standards Not Covered by a Federal or SIP Rule and Not Instituted as an Emission Cap or Operating Limit

- 3.5.1 Routine maintenance shall be performed on all air pollution control equipment. Maintenance records shall be kept in a form suitable and available for inspection or submittal to the Division.
- 3.5.2 The Permittee shall operate all of the particulate matter controlling baghouses including the at all times that associated processing equipment is being operated and raw clay is being fed into the process. [40 CFR 52.21 - PSD/BACT]
- 3.5.3 The Permittee shall maintain an adequate inventory of replacement filter bags for all the baghouses. [40 CFR 52.21 - PSD/BACT]

PART 4.0 REQUIREMENTS FOR TESTING**4.1 General Testing Requirements**

- 4.1.1 Performance and compliance tests shall be conducted and data reduced in accordance with applicable procedures and methods specified in the Division's Procedures for Testing and Monitoring Sources of Air Pollutants. The methods for the determination of compliance with emission limits listed under Sections 3.3 and 3.4 of this permit which pertain to the emission units listed in Section 3.1 are as follows:

Method 1 or 1A for the determination of sample point locations;

Method 2 for the determination of flow rate;

Method 3 or 3A for the determination of stack gas molecular weight;

Method 3B for the determination of the emissions rate correction factor or excess air and the Carbon Dioxide concentration. Method 3A may be used as an alternative.

Method 4 for the determination of stack gas moisture;

Method 5 for the determination of PM emissions;

Method 6 or 6C for the determination of SO₂ concentration;

Method 7 or 7E for the determination of NO_x concentration;

Method 8 for the determination of sulfuric acid mists emissions;

Method 9 and the procedures contained in Section 1.3 of the above reference document for the determination of opacity;

Method 10 for the determination of CO concentration;

Method 18 for the determination of methane emissions,

Method 22 for the visual determination of fugitive visible emissions;

Method 201 or 201A in conjunction with Method 202 (if required) for the determination of PM₁₀ or PM_{2.5} emissions. As an alternative, Method 5 in conjunction with 202 may be used;

Method 19, when applicable, to convert if necessary PM, CO, SO₂ and NO_x concentrations (e.g., gr./dscf for PM, ppm for gaseous pollutants), as determined using other methods specified in this section, to emission rates (e.g., lb/MMBtu).

Method 25 or 25A for the determination of non-methane hydrocarbon emissions;

AIR QUALITY PERMIT

Method 26 or 26A for the determination of HCl and/or HF emissions;

Method 5I of 40 CFR Part 60, Appendix A for the determination of Particulate Matter concentration for sources operating less than 1 hour as allowed by NSPS 40 CFR 60 Subpart OOO.

Minor changes in methodology may be specified or approved by the Director or his designee when necessitated by process variables, changes in facility design, or improvement or corrections that, in his opinion, render those methods or procedures, or portions thereof, more reliable. [391-3-1-.02(3)(a)]

- 4.1.2 All required continuous monitoring system(s) shall be installed, calibrated and operating in accordance with the applicable manufacturer specifications and/or specifications in applicable federal and/or state regulations when any performance test(s) is conducted. [391-3-1-.02(3)(a)]
- 4.1.3 Should production rate(s) increase above the rate(s) at which the acceptable performance test(s) was made, the Division may require that the relevant emission control system(s) be tested for compliance at a higher production rate. [391-3-1-.02(3)(a)]
- 4.1.4 The Permittee shall provide the Division sixty (60) days for tests required by 40 CFR Part 63 prior written notice of the date of any performance test(s) to afford the Division the opportunity to witness and/or audit the test, and shall provide with the notification a test plan in accordance with Division guidelines. [391-3-1-.02(3)(a)]
- 4.1.5 The Permittee shall submit reports of performance test results for emission capture systems and add-on control devices no later than sixty (60) days after completing the tests as specified in 40 CFR 63.10(d)(2).
- 4.1.6 The Permittee shall cause to be conducted a performance test at any specified emission unit when so directed by the Division. The test results shall be submitted to the Division within 60 days of the completion of the testing. Any tests shall be performed and conducted using methods and procedures that have been previously specified or approved by the Division. [391-3-1-.02(6)(b)1(i)]

4.2 Specific Testing Requirements

- 4.2.1 Within 60 days after achieving the maximum production rate at which each of the spray dryers (Emission Unit ID Nos. SD01 through SD08) and each of the calciners (Emission Unit ID Nos. KLN1 through KLN4) will be operated, but no later than 180 days of the initial startup of the sources, the Permittee shall determine compliance with the NSPS Subpart UUU PM and visible emission limits in Condition 3.3.3 under 40 CFR 60.732 as follows:
[40 CFR 60.736]

AIR QUALITY PERMIT

- a. Method 5 shall be used to determine the PM concentration. The sampling time and volume for each test run shall be at least 2 hours and 1.70 dscm (60 dscf).
- b. Method 9 and the procedures in 40 CFR 60.11, including the use of COMS in lieu of Method 9 if preferred, shall be used to determine opacity from stack emissions.

During the initial performance test of a wet scrubber, the Permittee shall use the monitoring devices of Condition 5.2.1 to determine the average change in pressure of the gas stream across the scrubber and the average flowrate of the scrubber liquid during each of the particulate matter runs. The arithmetic averages of the three runs shall be used as the baseline average values for the purposes of Condition 6.1.7 b. xiv and xv.

- 4.2.2 Within 60 days after achieving the maximum production rate at which each process line will be operated, but no later than 180 days of the initial startup of the affected source(s), the Permittee shall conduct performance tests as required below:
[40 CFR 60.675(a), (b), (c), (d) and (e)]

- a. Determining compliance with the NSPS Subpart OOO visible emission standards in Condition 3.3.2 using Method 9 and the procedures 40 CFR 60.11, with the following additions:
 - i. The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
 - ii. The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) shall be followed.
 - iii. When a water mist caused by wet dust suppression/water spray is present, the observation of fugitive emissions is to be made at a point in the plume where the mist is no longer visible.
 - iv. In determining compliance with the opacity limit for stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under 40 CFR 60.672(f) using Method 9, the duration of the Method 9 observations shall be 1 hour (ten 6-minute averages).
 - v. The duration of the Method 9 observations may be reduced to the duration the affected facility operates (but not less than 30 minutes) for baghouses that control storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time.
 - vi. The duration of the Method 9 observations must be 30 minutes (five 6-minute averages) for fugitive PM emissions from any affected facilities subject to the opacity limit(s) of 40 CFR Part 60, Subpart OOO as amended on April 28, 2009.

AIR QUALITY PERMIT

- b. Compliance shall be determined with the NSPS Subpart OOO particulate matter concentration standards in Condition 3.3.2 using Method 5 or Method 17. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121°C (250°F), to prevent water condensation on the filter.
- c. To demonstrate compliance with the fugitive emission limits for buildings specified in Condition 3.3.2, the Permittee shall conduct an initial Method 9 testing according to this condition and 40 CFR 60.11. This performance tests shall be conducted while all affected facilities inside the building are operating.
- d. Subsequent testing shall be performed as required by Table 3 to 40 CFR 60 Subpart OOO as applicable.

4.2.3 The Permittee may use the following as alternatives to the reference methods and procedures specified in Condition 4.2.2:
[40 CFR 60.675(e)]

- a. If the fugitive emissions from two or more facilities continuously interfere so that the opacity from an individual affected facility cannot be read, the Permittee may use either the following as alternatives to the reference methods and procedures specified in Condition 4.2.2.
 - i. Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.
 - ii. Separate the emissions so that the opacity of emissions from each affected facility can be read.
- b. A single visible emission observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions are met:
 - i. No more than three emission points may be read concurrently.
 - ii. All three emission points shall be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.
 - iii. If an opacity reading for any one of the three emission points equals or exceeds the applicable standard, then the observer shall stop taking readings for the other two points and continue reading just that single point.

AIR QUALITY PERMIT

- c. Method 5I may be used to determine the PM concentration as an alternative to Method 5 or Method 17 for affected facilities that operate for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations.
- d. In case velocities of exhaust gases from building vents may be too low to measure accurately with the type S pitot tube specified in EPA Method 2 [i.e., velocity head <1.3 mm H₂O (0.05 in. H₂O)] and referred to in Method 5, the Permittee may determine the average gas flow rate produced by the power fans (e.g., from vendor-supplied fan curves) to the building vent. The Permittee may calculate the average gas velocity at the building vent measurement site using the following and use this average velocity in determining and maintaining isokinetic sampling rates.

$$V_e = Q_f/A_e$$

Where:

V_e = average building vent velocity (feet per minute);

Q_f = average fan flow rate (cubic feet per minute); and

A_e = area of building vent and measurement location (square feet).

- 4.2.4 For performance tests required in Condition 4.2.2 involving only Method 9 testing, the Permittee may reduce the 30-day advance notification of performance test to a 7-day advance notification.
[40 CFR 60.675(g)]
- 4.2.5 In accordance with the provisions of 40 CFR 60.8, for any equipment constructed or modified at the facility, the Permittee shall conduct a performance test within 60 days after achieving the maximum production rate at which the equipment will be operated, but no later than 180 days after initial startup, unless the equipment is specifically exempt from testing in the applicable subpart of 40 CFR Part 60. The tests shall be conducted using the test methods and procedures specified in Condition 4.1.1. The specific pollutants, sample volumes, run times, and other testing parameters shall be as specified in the applicable subpart of 40 CFR Part 60.
[40 CFR 60.8]

AIR QUALITY PERMIT

CARBO Ceramics Inc. – Millen Facility

Permit No.: 3295-165-0012-P-01-0

- 4.2.6 Within 60 days after achieving the maximum production rate at which Process Line Nos. 1, 2, 3 and 4 will be operated, but no later than 180 days of the initial startup of the affected source(s), the Permittee shall conduct performance tests as specified in the following table, to demonstrate initial compliance with the BACT, MACT and SIP emissions limits using applicable test methods and/or procedures specified in Condition 4.1.1 through 4.1.5. The tests shall be conducted under the conditions that exist when the affected source(s) is operating at the representative performance conditions. In lieu of the testing required by this condition, the appropriate testing results from Conditions 4.2.1 and 4.2.2, can be used to demonstrate initial compliance with the PM and visible emission limits for the same affected sources under the pertinent PSD/BACT and State rules in Sections 3.3 and 3.4 of this permit provided that the testing methodology meet the requirement of this condition. [391-3-1-.02(3) and 3-1-3-1-.03(2)(c)]

Table 4.2.6-1: Initial BACT & Case-By-Case MACT Performance Test For Process Lines

Emission Unit	Emission Unit ID	Emissions
Calciner No. 1	KLN1	CO
Calciner No. 2	KLN2	NO _x
Calciner No. 3	KLN3	SO ₂
Calciner No. 4	KLN4	PM
		PM ₁₀ , PM _{2.5}
		HCl, HF
		H ₂ SO ₄
		Visible Emissions
Spray Dryer No. 1	SD01	CO
Spray Dryer No. 2	SD02	
Spray Dryer No. 3	SD03	NO _x
Spray Dryer No. 4	SD04	
Spray Dryer No. 5	SD05	PM/ PM ₁₀ , Filterable PM
Spray Dryer No. 6	SD06	
Spray Dryer No. 7	SD07	PM _{2.5}
Spray Dryer No. 8	SD08	
Stack emission sources excluding calciners, and silos with dedicated bin vents	(refer to Table 3.3.9-1)	Visible Emissions
		PM/ PM ₁₀
		PM _{2.5}
Silos with dedicated bin vents	(refer to Table 3.3.9-1)	Visible emissions
All fugitive emission sources	(refer to Table 3.3.9-1)	Visible emissions

- a. Suitable methods shall be used to determine the calciner feed rate for each run.
- b. The visible emissions from each spray dryer and calciner during the Method 5 performance tests shall be determined using COMS following the requirements of 40 CFR 60.11(e) or of relevant State rules.
- c. The duration of the Method 9 test shall be 3 hours (thirty 6-minute averages), except that the duration of the test for sources subject to 40 CFR Part 60, Subpart OOO as amended on April 28, 2009:

AIR QUALITY PERMIT

- i. shall be 1 hour (ten 6-minute averages) for stack visible emissions from any baghouse that controls PM emissions only from an individual enclosed storage bin per 40 CFR 60.675(c)(2)(i).
 - ii. may be reduced to the duration the affected facilities operates (but no less than 30 minutes) for baghouses controlling storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time per 40 CFR 60.675((c)(2)(ii).
 - iii. shall be 30 minutes (five 6-minute averages) for fugitive PM emissions from any affected facilities subject to the opacity limit(s) of 40 CFR Part 60, Subpart OOO as amended on April 28, 2009.
 - d. For the purpose of this condition, calciner operating day means a 24-hour period between 12:00 midnight and the following midnight during which the calciner is operated.
 - e. Emissions control technologies, procedures and measurements utilized by any source(s) during the performance testing shall be recorded in detail and included with the pertinent test report(s).
 - f. If a listed source has been tested previously and the testing result(s) has been accepted by the Division, this source is exempt from the testing requirement(s) in this condition for the same pollutants if the specific testing requirements for each underlying regulation were satisfied with the previous test.
 - g. During the performance tests for SO₂ and PM₁₀ for Calciner Nos. 1, 2, 3, and 4 (KLN1, KLN2, KLN3, and KLN4), the average pressure drop across the wet scrubbers (SC01, SC02, SC03, and SC04) and the flow rates for the wet scrubbers of the scrubbant shall be continuously monitored in order to develop the excursion threshold per Condition 6.1.7c.v.
 - h. During the performance tests for SO₂ for Calciner Nos. 1, 2, 3, and 4 (KLN1, KLN2, KLN3, and KLN4), the overall SO₂ control efficiency (OCE) of the wet scrubbers (SC01, SC02, SC03, and SC04) shall be determined for use in Condition 6.2.15.
 - i. The SO₂ test required by this condition for Calciner Nos. 1, 2, 3, and 4 (KLN1, KLN2, KLN3, and KLN4) should be conducted with the scrubbant liquid at a minimum pH of 6.0.
- 4.2.7 The visible emissions from each spray dryer and calciner during the Method 5 performance tests required by Condition 4.2.6 shall be determined using COMS following the requirements of 40 CFR 60.11(e) or applicable procedures and methods specified in the Division's Procedures for Testing and Monitoring Sources of Air Pollutants. The COMS readings from a Division-approved test(s) conducted following the requirements of 40 CFR 60.11(e), as required by Condition 4.2.1 may be used in lieu of the visible emission determination using Method 9.

AIR QUALITY PERMIT

[391-3-1-.02(3) and 3-1-3-1-.03(2)(c)]

- 4.2.8 The Permittee shall conduct annual HCl and HF emission performance tests on each calciner to demonstrate that the calciner is in compliance with the case-by-case MACT emission limits in Condition 3.3.12.
[391-3-1-.02(3) and 3-1-3-1-.03(2)(c)]
- 4.2.9 The CO performance tests required for calciners under Condition 4.2.6 shall be repeated at approximately annual intervals.
[391-3-1-.02(3) and 3-1-3-1-.03(2)(c)]
- 4.2.10 From the initial performance testing as required by Condition 4.2.6, the Permittee shall conduct subsequent particulate matter emission performance tests on each calciner and each spray dryer to demonstrate compliance with the BACT emission limits in Condition 3.3.9 every 36 months. During the performance test for the calciners (Source Code ID Nos. KLN1, KLN2, KLN3 and KLN4) the average pressure drop across the wet scrubbers (SC01, SC02, SC03 and SC04) and the flow rate for the wet scrubber shall be continuously monitored in order to develop exceedance thresholds per Condition 6.1.7.
[391-3-1-.02(3) and 3-1-3-1-.03(2)(c)]
- 4.2.11 The Permittee shall conduct at approximately annual intervals, NO_x and SO₂ emission performance tests on each calciner to demonstrate compliance with the BACT emission limits in Condition 3.3.9. The overall SO₂ control efficiency (OCE) of each emission unit's wet scrubber shall be established for use in Condition 6.2.15. During the performance test the average pressure drop across the wet scrubber and the flow rate for the wet scrubber shall be continuously monitored in order to develop exceedance thresholds per Condition 6.1.7.
[40 CFR 52.21, 391-3-1-.02(3) and 3-1-3-1-.03(2)(c)]
- 4.2.12 After the initial performance test required in Condition 4.2.6, the Permittee shall conduct a H₂SO₄ emission performance test every year, at approximately 12 month intervals, on each calciner (KLN1, KLN2, KLN3, and KLN4) to demonstrate compliance with Condition 3.2.5.
[40 CFR 52.21, 391-3-1-.02(3) and 3-1-3-1-.03(2)(c)]
- 4.2.13 The Permittee shall determine, during each of the performance tests as required by Conditions 4.2.6, 4.2.8 and 4.2.11, the SO₂, HCl and HF control efficiencies achieved by each of the scrubbers controlling the calciners.

PART 5.0 REQUIREMENTS FOR MONITORING (Related to Data Collection)

5.1 General Monitoring Requirements

- 5.1.1 Any continuous monitoring system required by the Division and installed by the Permittee shall be in continuous operation and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Monitoring system response, relating only to calibration checks and zero and span adjustments, shall be measured and recorded during such periods. Maintenance or repair shall be conducted in the most expedient manner to minimize the period during which the system is out of service.
[391-3-1-.02(6)(b)1]

5.2 Specific Monitoring Requirements

- 5.2.1 The Permittee shall install, calibrate, maintain, and operate a system to continuously monitor and record the indicated emissions or parameters on the following equipment listed. Each system shall meet the applicable performance specification(s) of the Division's monitoring requirements and be operated in a manner sufficient to provide a reasonable assurance of compliance with the applicable emission standards in this permit.
[40 CFR 60.735(b), 40 CFR 60.743(d) and 391-3-1-.02(6)(b)1]

Emission Unit Being Monitored	Emission Unit ID	Emissions or Parameters Being Monitored	Monitoring System Being Used & Installation Location
Calciner No. 1	KLN1	Scrubber Pressure Drop, Flow rate and pH	Wet Scrubber SC01
Calciner No. 2	KLN2	Scrubber Pressure Drop, Flow rate and pH	Wet Scrubber SC02
Calciner No. 3	KLN3	Scrubber Pressure Drop, Flow rate and pH	Wet Scrubber SC03
Calciner No. 4	KLN4	Scrubber Pressure Drop, Flow rate and pH	Wet Scrubber SC04
Spray Dryer No. 1	SD01	Opacity (COMS)	Outlet of the Spray Dryer No. 1 Baghouses (SB01, SB02, SB03 and SB04) Stack 002
Spray Dryer No. 2	SD02	Opacity (COMS)	Outlet of the Spray Dryer No. 2 Baghouses (SB05, SB06, SB07 and SB08) Stack 003
Spray Dryer No. 3	SD03	Opacity (COMS)	Outlet of the Spray Dryer No. 3 Baghouses (SB09, SB10, SB11 and SB12) Stack 010

AIR QUALITY PERMIT

Emission Unit Being Monitored	Emission Unit ID	Emissions or Parameters Being Monitored	Monitoring System Being Used & Installation Location
Spray Dryer No. 4	SD04	Opacity (COMS)	Outlet of the Spray Dryer No. 4 Baghouses (SB13, SB14, SB15 and SB16) Stack 011
Spray Dryer No. 5	SD05	Opacity (COMS)	Outlet of the Spray Dryer No. 5 Baghouses (SB17, SB18, SB19 and SB20) Stack 017
Spray Dryer No. 6	SD06	Opacity (COMS)	Outlet of the Spray Dryer No. 6 Baghouses (SB21, SB22, SB23 and SB24) Stack 018
Spray Dryer No. 7	SD07	Opacity (COMS)	Outlet of the Spray Dryer No. 7 Baghouses (SB25, SB26, SB27 and SB28) Stack 024
Spray Dryer No. 8	SD08	Opacity (COMS)	Outlet of the Spray Dryer No. 8 Baghouses (SB291, SB30, SB31 and SB32) Stack 025

The pressure loss monitoring device must be certified by the manufacturer to be accurate within 5 percent of water column gauge pressure at the level of operation. The liquid flow rate monitoring device must be certified by the manufacturer to be accurate within 5 percent of design scrubbing liquid flow rate. The Permittee shall determine and record once each day, from the recordings of the monitoring devices in this condition an arithmetic average over a 2-hour period of both the change in pressure of the gas stream across the scrubber and the flowrate of the scrubbing liquid.

The sources shall be maintained such that the 6-minute average opacity for any 6-minute period for any COMS does not exceed the visible emission limit in Conditions 3.3.3 or 3.3.9. If the average opacity for any 6-minute period exceeds any of the opacity limits in these conditions, this shall constitute a violation of the visible emission standard.

- 5.2.2 The Permittee shall install a device to continuously monitor the temperature at the inlets of baghouses that receive gases at a temperature higher than ambient air, and record the time and date of each incident when the temperature exceeds the fabric filter bag design temperature. In lieu of monitoring temperature at the baghouse inlet, the Permittee may monitor a surrogate temperature (e.g., clay temperature or dryer outlet temperature). For each baghouse monitored by a surrogate temperature, the Permittee shall determine the equivalent fabric filter bag design temperature and record each incident when the surrogate temperature exceeds the equivalent fabric filter bag design temperature. The Permittee shall record the fabric filter bag design temperature or the equivalent filter bag design temperature for each fabric baghouse listed. Such records and any supporting calculations shall be made available for inspection.

[391-3-1-.02(6)(b)1 and 40 CFR 52.21- PSD/BACT]

AIR QUALITY PERMIT

5.2.3 The Permittee shall perform a check of visible emissions from all baghouses (including process baghouses) controlling emissions from sources listed in Section 3.1 of this permit, and from sources added or replaced in accordance with this permit and Rule 391-3-1-.03. Emission units monitored using COMS and emission units controlled by a wet-process control device (such as a wet scrubber) are exempt from this condition. Baghouses controlling emissions from silos with dedicated bin vents, wet screening operations, bucket elevators, screw conveyors, bagging operations, and pneumatic conveyors are exempt from this condition. The Permittee shall retain a record in a daily visible emissions (VE) log suitable for inspection or submittal. The check shall be conducted at least once for each day or portion of each day of operation using procedures a through d below except when atmospheric conditions or sun positioning prevents any opportunity to perform the daily VE check. Any operational day when atmospheric conditions or sun position prevents a daily reading shall be reported as monitor downtime in the report required by Condition 6.1.4. The Permittee shall schedule a daily VE check only when an emission unit is in operation. [391-3-1-.02(6)(b)1]

- a. Determine, in accordance with the procedures specified in paragraph d of this condition, if visible emissions are present at the discharge point to the atmosphere from each of the sources and record the results in the daily VE log. For sources that exhibit visible emissions, the Permittee shall comply with paragraph b or c of this condition.
- b. For each source determined to be emitting visible emissions, the Permittee shall determine whether the emissions equal or exceed the opacity action level using the procedure specified in paragraph d of this condition, except that the person performing the determination shall have received additional training acceptable to the Division and be Method 9 certified to recognize the appropriate opacity level and the determination shall cover a period of 3 minutes. The opacity action level is 5 percent. The results shall be recorded in the daily VE log. For sources that exhibit visible emissions of greater than or equal to the opacity action level, the Permittee shall comply with paragraph c of this condition.
- c. For each source that requires action in accordance with paragraphs a or b of this condition, the Permittee shall determine the cause of the visible emissions and correct the problem in the most expedient manner possible. The Permittee shall note the cause of the visible emissions, the pressure drop, any other pertinent operating parameters, and the corrective action taken in the maintenance log.
- d. The person performing the determination shall stand at a distance of at least 15 feet, which is sufficient to provide a clear view of the plume against a contrasting background with the sun in the 140° sector at his/her back. Consistent with this requirement, the determination shall be made from a position such that the line of vision is approximately perpendicular to the plume direction. Only one plume shall be in the line of sight at any time when multiple stacks are in proximity to each other.

AIR QUALITY PERMIT

- e. When a quarterly 30-minute visible emissions inspection required by Condition 5.2.7 has been conducted on any affected baghouse during the day, no daily VE check on the same baghouse is necessary for that day.
- 5.2.4 The Permittee shall develop and implement a Preventive Maintenance Program for all the baghouses to assure that the provisions of Condition 2.1.1 are met. The program shall be subject to review and modification by the Division and shall include the pressure drop ranges that indicate proper operation for each baghouse. At a minimum, the following operation and maintenance checks shall be made on at least a weekly basis, and a record of the findings and corrective actions taken shall be kept in a maintenance log:
[391-3-1-.02(6)(b)1 and 40 CFR 52.12 – PSD/BACT]
- a. Record the pressure drop across each baghouse and ensure that it is within the appropriate range.
 - b. For baghouses equipped with compressed air cleaning systems, check the system for proper operation. This may include checking for low pressure, leaks, proper lubrication, and proper operation of timer and valves.
 - c. For baghouses equipped with reverse air cleaning systems, check the system for proper operation. This may include checking damper, bypass, and isolation valves for proper operation.
 - d. For baghouses equipped with shaker cleaning systems, check the system for proper operation. This may include checking shaker mechanism for loose or worn bearings, drive components, mountings, proper operation of outlet/isolation valves, and proper lubrication.
 - e. Check dust collector hoppers and conveying systems for proper operation.
- 5.2.5 Once each day or portion of each day of operation, the Permittee shall inspect all stack emission points from the emission units listed in Section 3.1 for which no air pollution control device (APCD) is utilized and all emission points from emission units added or replaced in accordance with any applicable provision(s) of Georgia Rules For Air Quality Control 391-3-1-.03(6) for which no APCD is utilized. Boilers, wet processes, stationary engines, and emission units monitored in accordance with Conditions 5.2.1 or 5.2.3 are exempt from this condition. The inspection shall be conducted by performing a walkthrough of the facility and noting the occurrence of the following in a daily VE log:
- a. Any visible emissions.
 - b. Any mechanical failure or malfunction that results in increased air emissions.

For each emission point noted with visible emissions, mechanical problems or malfunctions, the Permittee shall take corrective action in the most expedient manner possible and re-inspect the unit within 24 hours to verify that no visible emissions exist. Failure to eliminate the visible emissions or to correct the mechanical failure or malfunction specified in paragraph a and paragraph b within 24 hours shall constitute an excursion.
[40 CFR 52.21 – PSD/BACT or 391-3-1-.02(6)(b)1]

AIR QUALITY PERMIT

- 5.2.6 Each of the stationary emergency diesel generator Nos. 1, 2, 3 and 4 (Emissions Unit ID Nos. EDG1, EDG2, EDG3 and EDG4) shall be equipped with a non-resettable hour meter to track the number of hours operated during any type of operation and during each calendar month. The Permittee shall record the time of operation and the reason the generator(s) was in operation during that time.
[40 CFR 60.4209(c) and 60.4214(b)]

- 5.2.7 The Permittee shall conduct quarterly 30-minute visible emissions inspections using EPA Method 22 for any affected facility that is subject to 40 CFR Part 60, Subpart OOO, constructed, modified, or reconstructed on or after April 22, 2008, and uses a baghouse to control emissions. The Method 22 test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the Permittee shall initiate corrective action within 24 hours to return the baghouse to normal operation. The Permittee shall record each Method 22 test, including the date and any corrective actions taken, in the logbook required under 40 CFR 60.676(b).

The Permittee may establish a different baghouse-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to Condition 4.2.2 per 40 CFR 60.675(b) simultaneously with a Method 22 to determine what constitutes normal visible emissions from that affected facility's baghouse when it is in compliance with the applicable PM concentration limit in Condition 3.3.2 per Table 2 of 40 CFR part 60, Subpart OOO as amended on April 28, 2009. Once established, the revised visible emissions success level shall be incorporated into the permit for the affected facility.

As an alternative to the quarterly Method 22 inspections, the Permittee may use a bag leak detection system that is installed, operated, and maintained according to per 40 CFR 60.674(d).
[40 CFR 60.674(c) and (d)]

- 5.2.8 The Permittee shall monitor the NO_x concentrations from the exhaust gases from each direct-fired rotary calciner stack (Stack ID Nos. S005, S016, S026, and S037) for each week or portion of week of operation of each calciner using the following procedures:
[40 CFR 52.21 – PSD/BACT and 391-3-1-.02(6)(b)1]

- a. Within 60 days of the commencement of operation of each calciner, the Permittee shall begin to conduct measurements of NO_x and oxygen (O₂) concentrations in the exhaust gas of each calciner. The initial measurement period shall consist of three (3) test runs, each thirty (30) minutes in duration. Subsequent measurement periods shall consist of one (1) test run thirty minutes in duration.
- b. Measurements of the NO_x and O₂ concentration in calciner exhaust gases shall be conducted using the procedures of the American Society for Testing and Materials Standard (ASTM) Test Method for Determination of NO_x, Carbon Monoxide(CO), and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, ASTM D 6522; or procedures of Gas Research

AIR QUALITY PERMIT

Institute Method GRI-96/0008, EPA/EMC Conditional Test Method (CTM-30) Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers and Process Heaters Using Portable Analyzers, or Procedures of EPA Reference Methods 7E and 3A, or other methods and procedures approved by the Division.

- c. NO_x emissions rate (pounds per hour) for all emissions units shall be determined using the following equation;

$$E_{\text{NO}_x} = K \times C_d \times Q_{\text{std}}$$

where:

E_{NO_x} = Mass emissions rate of NO_x (lb/hr);

K = Conversion factor for $\text{NO}_x = 1.194 \times 10^{-7}$ ([lb/scf]/ppm)

C_d = Concentration of NO_x (ppm by volume, dry basis);

Q_{std} = Standard hourly flow rate from kiln exhaust as measured by Method 2, dscfh

(Note: In lieu of a standard hourly flow rate from the calciner exhaust measured by Method 2, data from a continuous flow monitor, installed as per Condition 5.2.9 of this permit, taken concurrently with the NO_x measurements can be used).

- d. Following the initial measurement, the Permittee shall conduct the same measurements each calendar week or portion of calendar week for each calciner. Weekly measurements shall continue until three (3) consecutive weekly measurements are each less than 90 lbs./hr (75% of the BACT emission limit in Condition 3.3.9). Following three (3) consecutive weekly measurements that are each less than 90 lbs./hr, the measurements may be performed at a frequency of one per calendar quarter (quarters ending March 31, June 30, September 30, and December 31).
- e. Following any quarterly measurement that is greater than 90 lbs./hr, the Permittee shall conduct a new measurement within one unit operating day. Following this measurement, subsequent measurements shall be conducted weekly and quarterly measurements may be resumed as prescribed by Condition 5.2.8(d).
- f. A record of NO_x monitoring shall be kept in a form suitable for inspection or submittal for a period of five (5) years. The record shall at a minimum contain the cause and corrective action for all excursions and, for each test run, the mass emission rate and concentration of NO_x , the concentration of oxygen, measured stack gas flow rate.

AIR QUALITY PERMIT

- g. A unit operating day shall be defined as any day that the unit is operated for more than 30 minutes between 12:00 midnight and the following midnight.
 - h. Any measured NO_x emissions exceeding 121 lbs./hr shall be reported to the Division in writing with 15 working days of measurement. The report shall include calciner exhaust flow rate and kiln feed rate during the NO_x measurement.
- 5.2.9 In lieu of the exhaust flow rate measured by Method 2 for each calciner as per Condition 5.2.8, the Permittee may install, calibrate, maintain, and operate according to all applicable performance specifications a flow monitor to continuously measure the exhaust gas flow rate from each calciner.
[391-3-1-.02(6)(b)1]
- 5.2.10 The Permittee shall install, calibrate, maintain, and operate a system to continuously monitor and record each of the indicated parameters on the following equipment in accordance with the manufacturer's recommendations. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.
[391-3-1-.02(6)(b)1]
 - a. The gas temperature at the inlet of each of the baghouse systems serving calciners.
 - b. The slurry input rate (1-hour block average) to each spray dryer.
 - c. The kiln feed input rate (1-hour block average) to each calciner.
 - d. The scrubber liquid flow rate (1-hour block average) for each scrubber unit.
 - e. The scrubber pH (1-hour block average) for each scrubber unit.
 - f. The scrubber pressure drop (1-hour block average) for each scrubber unit.
- 5.2.11 The Permittee shall develop and implement a Dust Suppression Plan in accordance with Condition 3.4.1 to suppress fugitive dust and roadway particulate sources. The plan shall be subject to review and approval by the Division, upon request and shall include records sufficient to show that the plan is followed. In particular, any deviations from the plan, or failure to follow plan procedures, shall be noted.
[40 CFR 52.21 and 391-3-1-.02(6)(b)1]

PART 6.0 OTHER RECORD KEEPING AND REPORTING REQUIREMENTS

6.1 General Record Keeping and Reporting Requirements

- 6.1.1 Unless otherwise specified, all records required to be maintained by this Permit shall be recorded in a permanent form suitable for inspection and submission to the Division and to the EPA. The records shall be retained for at least five (5) years following the date of entry.

[391-3-1-.02(6)(b)1(i)]

- 6.1.2 In addition to any other reporting requirements of this Permit, the Permittee shall report to the Division in writing, within seven (7) days, any deviations from applicable requirements associated with any malfunction or breakdown of process, fuel burning, or emissions control equipment for a period of four hours or more which results in excessive emissions.

The Permittee shall submit a written report that shall contain the probable cause of the deviation(s), duration of the deviation(s), and any corrective actions or preventive measures taken.

[391-3-1-.02(6)(b)1(iv)]

- 6.1.3 The Permittee shall submit written reports of any failure to meet an applicable emission limitation or standard contained in this permit and/or any failure to comply with or complete a work practice standard or requirement contained in this permit which are not otherwise reported in accordance with Conditions 6.1.4 or 6.1.2. Such failures shall be determined through observation, data from any monitoring protocol, or by any other monitoring which is required by this permit. The reports shall cover each semiannual period ending June 30 and December 31 of each year, shall be postmarked by August 29 and February 28, respectively following each reporting period, and shall contain the probable cause of the failure(s), duration of the failure(s), and any corrective actions or preventive measures taken.

[40 CFR 52.21 – PSD/NSR]

- 6.1.4 The Permittee shall submit a written report containing any excess emissions, exceedances, and/or excursions as described in this permit and any monitor malfunctions for each quarterly period ending March 31, June 30, September 30, and December 31 of each year. All reports shall be postmarked by May 30, August 29, November 29, and February 28, respectively following each reporting period. In the event that there have not been any excess emissions, exceedances, excursions or malfunctions during a reporting period, the report should so state. Otherwise, the contents of each report shall be as specified by the Division's Procedures for Testing and Monitoring Sources of Air Pollutants and shall contain the following:

[391-3-1-.02(6)(b), NSPS, MACT, and BACT/NSR]

- a. A summary report of excess emissions, exceedances and excursions, and monitor downtime, in accordance with Section 1.5(c) and (d) of the above referenced document, including any failure to follow required work practice procedures.
- b. Total process operating time during each reporting period.

AIR QUALITY PERMIT

- c. The magnitude of all excess emissions, exceedances and excursions computed in accordance with the applicable definitions as determined by the Director, and any conversion factors used, and the date and time of the commencement and completion of each time period of occurrence.
 - d. Specific identification of each period of such excess emissions, exceedances, and excursions that occur during startups, shutdowns, or malfunctions of the affected facility. Include the nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.
 - e. The date and time identifying each period during which any required monitoring system or device was inoperative (including periods of malfunction) except for zero and span checks, and the nature of the repairs, adjustments, or replacement. When the monitoring system or device has not been inoperative, repaired, or adjusted, such information shall be stated in the report.
 - f. Certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- 6.1.5 Where applicable, the Permittee shall keep the following records:
[391-3-1-.02(6)(b), NSPS, MACT, and BACT/NSR]
- a. The date, place, and time of sampling or measurement;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of such analyses; and
 - f. The operating conditions as existing at the time of sampling or measurement.
- 6.1.6 The Permittee shall maintain files of all required measurements, including continuous monitoring systems, monitoring devices, and performance testing measurements; all continuous monitoring system or monitoring device calibration checks; and adjustments and maintenance performed on these systems or devices. These files shall be kept in a permanent form suitable for inspection and shall be maintained for a period of at least five (5) years following the date of such measurements, reports, maintenance and records.
[391-3-1-.02(6)(b), NSPS, MACT, and BACT/NSR]
- 6.1.7 For the purpose of reporting excess emissions, exceedances or excursions in the report required in Condition 6.1.4, the following excess emissions, exceedances, and excursions shall be reported:

AIR QUALITY PERMIT

[391-3-1-.02(6)(b)1, 40 CFR 52.21, 40 CFR Part 60, Subparts Dc, OOO, UUU and IIII, 40 CFR Part 63, Subpart ZZZZ and 40 CFR 63.40 through 63.44/112(g) case-by-case MACT]

- a. Excess emissions: (means for the purpose of this condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping which is specifically defined, or stated to be, excess emissions by an applicable requirement)

None.

- b. Exceedances: (means for the purpose of this condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) do not meet the applicable emission limitation or standard consistent with the averaging period specified for averaging the results of the monitoring)

- i. Each exceedance of the SO₂ emission limit of 34.25 lbs/hr for calciners in Condition 3.3.9 as determined per Condition 6.2.15.
- ii. Each exceedance of visible emission limit of 10% opacity (6-minute block average) in Condition 3.3.9 for calciners and spray dryers, as indicated by COMS required by Condition 5.2.1.
- iii. Firing any of the boilers, spray dryers and calciners with fuel(s) other than natural gas and propane.
- iv. Any monthly average of methanol emissions from any spray dryer that exceed the limit of 0.48 lbs per ton of kiln feed in Condition 3.3.12.
- v. Any 12-month rolling total of methanol emissions from any spray dryer that exceeds the 10.04 tons limit in Condition 3.3.12.
- vi. Any instance of firing any of the stationary emergency diesel generators subject to Condition 3.3.10 with diesel fuel that contains more than 0.0015% sulfur (15 ppm) by weight; contains either more than 35% by volume of aromatic content or has a cetane index of less than 40.
- vii. Any 12-month rolling total of HCl emissions from any calciner that exceeds the 8.70 tons limit in Condition 3.3.12.
- viii. Any 12-month rolling total of HF emissions from any calciner that exceeds the 37.92 tons limit in Condition 3.3.12.
- ix. Any 12-month rolling total of VOC emissions from the two spray dryers on each process line that equals or exceeds the 13.64 tons limit in Condition 3.3.9.

AIR QUALITY PERMIT

- x. Any 12-month rolling total GHG emissions for any calciner in excess of 36,715 tpy CO₂e.
 - xi. Any 12-month rolling total GHG emissions for any spray dryer in excess of 28,760 tpy CO₂e.
 - xii. Any 12-month rolling total GHG emissions for any boiler in excess of 5,997 tpy CO₂e.
 - xiii. Any 12-month rolling total GHG emissions for any emergency generator in excess of 844 tpy CO₂e.
- c. Excursions: (means for the purpose of this condition and Condition 6.1.4, any departure from an indicator range or value established for monitoring consistent with any averaging period specified for averaging the results of the monitoring)
- i. Any temperature at the inlet of any baghouse specified in Condition 5.2.2 that exceeds the filter bag design temperature or the equivalent filter bag design temperature, as recorded in accordance with Condition 5.2.2.
 - ii. For the sources specified in Condition 5.2.3, any two consecutive required daily determinations of visible emissions from the same source for which visible emissions are equal to or exceed the opacity action level.
 - iii. Any visible emissions or mechanical failure or malfunction discovered by the walk through described in Condition 5.2.5 that are not eliminated or corrected within 24 hours of first discovering the visible emissions or mechanical failure or malfunction.
 - iv. Each event that the quarterly 30-minute visible emissions inspection required by Condition 5.2.7 was not conducted.
 - v. Any 3-hour period during which the average pH of the scrubbant for the wet scrubbers (APCD ID Nos. SC01, SC02, SC03, and SC04) is below 6.0 standard units.
 - vi. Any instance of operating any of the stationary emergency diesel generators for more than 500 hours during any period of 12 rolling/consecutive months as limited by Condition 3.2.4.
 - vii. Any instance of the accumulated maintenance check and readiness testing time for any emergency stationary diesel generator exceeding 100 hours during any period of 12 rolling/consecutive months as limited by Condition 3.3.4

- viii. Any daily 2-hour average of the wet scrubber pressure drop determined as described in Condition 5.2.1 for each Calciner Nos. 1, 2, 3, and 4 (KLN1, KLN2, KLN3, and KLN4) that is less than 90 percent of the average value recorded according to Condition 4.2.1 during the most recent performance test that demonstrated compliance with the particulate matter standard.
 - ix. Each daily wet scrubber liquid flow rate recorded as described in Condition 5.2.1 for each Calciner Nos. 1, 2, 3, and 4 (KLN1, KLN2, KLN3, and KLN4) that is less than 80 percent or greater than 120 percent of the average value recorded according to Condition 4.2.1 during the most recent performance test that demonstrated compliance with the particulate matter standard.
- d. In addition to the excess emissions, exceedances and excursions specified above, the following should also be included with the report required in Condition 6.1.4:
- i. The results of all NO_x monitoring conducted per Condition 5.2.8 during the quarterly reporting period.

6.2 Specific Record Keeping and Reporting Requirements

- 6.2.1 The Permittee shall comply with the general provisions of 40 CFR, Part 60, “Standards of Performance for New Stationary Sources (NSPS).” In particular, for sources subject to NSPS, the Permittee shall comply with the reporting and record keeping requirements of 40 CFR, Part 60, Subpart A (unless otherwise directed in another applicable Subpart) and furnish the Division written notification as follows:
[40 CFR 60.7(a)(1) thru (4) & 60.676(g & h)]
- a. A notification of the date construction or reconstruction of NSPS equipment is commenced postmarked no later than 30 days after such date.
 - b. A notification of the actual date of initial startup of NSPS equipment postmarked within 15 days after such date.
 - c. A notification of any physical or operational change to an existing NSPS equipment which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted in the applicable Subpart of 40 CFR, Part 60. This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the equipment before and after the change, and the expected completion date of the change. The Division may request additional relevant information subsequent to this notice.
- 6.2.2 The Permittee shall maintain a record of all actions taken in accordance with Condition 3.2.3 to control fugitive dust from roads, storage piles, or any other source of

AIR QUALITY PERMIT

fugitive dust. Such record shall include, but not being limited to, the following information if applicable:

[391-3-1-.02(6)(b)1]

- a. Inspection and maintenance activities taken;
- b. Daily operating log of each of the dust/fugitive control systems;
- c. The sources (e.g. sections of the roads) that were controlled;
- d. Ambient conditions (dry, wet, precipitation, temperature, etc.).

6.2.3 To demonstrate compliance with the limitations specified in this permit, the Permittee shall maintain the following records on site:

[40 CFR 52.21 and 391-3-1-.02(6)(b)1]

- a. Daily and monthly feed input rates for each of the calciners.
- b. Monthly usage rate of additive(s)/chemical(s) containing methanol and/or VOC compounds used for each of the process/kiln lines. Such records shall also include MSDS, Product Data Certification Sheet or other manufacturer/supplier certified records indicating the methanol and/or VOC content(s) of the additive(s) or chemical(s) used.
- c. Daily and monthly operating hours of each spray dryer and calciner.
- d. Monthly fuel usage records for boilers, spray dryers and calciners.

Unless otherwise specified, all records required above shall be recorded in a permanent form suitable for inspection and submission to the Division and to the EPA. The records shall be retained for at least five (5) years following the date of entry.

6.2.4 The Permittee shall utilize the appropriate records in Condition 6.2.3 and mass balance to calculate the methanol emission rates for each pair of spray dryers during each calendar month. For the purpose of this condition, 100 percent of the methanol contained in the chemicals added to the clay slurry is assumed to be emitted into the atmosphere from the spray dryer. The Permittee shall notify the Division in writing if any monthly average methanol emission rate exceeds 0.48 lbs/ton of kiln feed or any monthly total methanol emissions exceed the notification level of 0.84 tons, i.e. 1/12 of the annual emission limit in Condition 3.3.12. This notification shall be postmarked by the 15th day of the following month and shall include an explanation of how the Permittee intends to attain or maintain compliance with the emission limit.

[391-3-1-.02(6)(b)1, 40 CFR 52.21, and 40 CFR 63.40 through 63.44/112(g) case-by-case MACT]

AIR QUALITY PERMIT

- 6.2.5 The Permittee shall use the monthly methanol emission data in Condition 6.2.4 to calculate the 12-month rolling total of methanol emissions from each spray dryer. The Permittee shall notify the Division in writing if any 12-month rolling total exceeds the annual methanol emission limit of 10.04 tons in Condition 3.3.12. This notification shall be postmarked by the 15th day of the following month and shall include an explanation of how the Permittee intends to attain future compliance with the annual emission limit involved. [391-3-1-.02(6)(b)1, 40 CFR 52.21 – PSD/BACT, and 40 CFR 63.40 through 63.44/112(g) case-by-case MACT]
- 6.2.6 The Permittee shall utilize the appropriate records in Condition 6.2.4 to calculate the 24-hour average of VOC emissions (lbs/hr) from each spray dryer based on mass balance. For the purpose of this condition, it is assumed that 100 percent of the VOC compounds contained in the additive(s) or chemical(s) added to the clay slurry are assumed to be emitted into the atmosphere from the spray dryer. The emission calculation for each spray dryer shall sum the VOC emissions from the use of all VOC-containing chemicals and from the fuel combustion. All the emission calculations, including any AP-42 and/or Division-approved emission factors used, shall be kept as part of the records required in Condition 6.2.3.
- 6.2.7 The Permittee shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the applicable NSPS Subpart OOO standards in Condition 3.3.2 per 40 CFR 60.672, including reports of opacity observations made using Method 9 or Method 22 to demonstrate compliance with Condition 3.3.2. [40 CFR 60.676(f)]
- 6.2.8 For all the new or modified sources subject to NSPS Subpart OOO, the Permittee shall submit to the Division a written notification of the actual date of initial startup of each affected facility, or a single notification of startup for a combination of affected facilities in a production line that begin actual initial startup on the same day. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available. [40 CFR 60.676(i) and (l)(1)]
- 6.2.9 The Permittee shall maintain monthly operating records of each stationary emergency diesel generator (Emission Unit ID Nos. EDG1, EDG2, EDG3 and EDG4) subject to Condition 3.3.4, including operating hours and reasons of the operation, e.g., emergency power generation and/or fire distinguishing, readiness testing and/or maintenance check. These records shall be kept available for inspection or submittal for 5 years from the date of record. [40 CFR 60.4211(e) & 391-3-1-.03(6)(b)11(v)(l)]

AIR QUALITY PERMIT

- 6.2.10 The Permittee shall use monthly operating time records required by Condition 6.2.9 to calculate the 12 month rolling total of the operating and/or maintenance check and readiness testing time for each diesel generator specified in Condition 6.2.9 for each calendar month. All the calculations shall be kept as part of the records required in Condition 6.2.9. The Permittee shall notify the Division in writing if any of the 12 month rolling total of maintenance check and readiness testing time or operating time exceeds 100 or 500 hours, respectively. This notification shall be postmarked by the 15th day of the following month and shall include an explanation of how the Permittee intends to attain future compliance with Condition 3.3.4 or 3.2.4.
[40 CFR 60.4211(e) & 391-3-1-.03(6)(b)11(v)(l)]
- 6.2.11 The Permittee shall keep records verifying that each shipment of diesel fuel received for firing each stationary emergency diesel generator (Emission Unit ID Nos. EDG1, EDG2, EDG3 and EDG4) complies with the applicable requirements in Condition 3.3.10. Verification shall consist of the fuel oil receipts and fuel supplier certifications or results of analyses of the fuel oils conducted by methods of sampling and analysis which have been specified or approved by the EPA or the Division. These records shall be kept available for inspection or submittal for 5 years from the date of record.
[40 CFR 60.4207 and 40 CFR 52.21 – PSD/BACT]
- 6.2.12 The Permittee shall comply with all the applicable requirements of the General Provisions of 40 CFR Part 60 as listed in Table 8 to 40 CFR Part 60, Subpart IIII.
[40 CFR 60.4218]
- 6.2.13 The Permittee shall furnish the Division written notification of the date of the initial startup of each process line, including associated boilers and emergency stationary diesel generators within 15 days after such date.
[391-3-1-.03(2)(c)]
- 6.2.14 The Permittee shall maintain a record of the operating hours and the daily input rate of calciner feed to each of the calciners (Emission Unit ID No. KLN1, KLN2, KLN3, and KLN4). The Permittee shall obtain a representative sample daily from each clay slurry tank or each calciner's feed stream feeding any calciner and analyze the sample for the sulfur in percent by weight. The Permittee shall also obtain a respective sample daily from each calciner's output product stream and analyze the sample for the sulfur in percent by weight. The daily samples shall be acquired and analyzed for sulfur content by methods acceptable to the Division. The sulfur content results shall be used to determine SO₂ emissions as required by Condition 6.2.15.
[391-3-I-.02(6)(b)1 and 40 CFR 52.21 - PSD/BACT]
- 6.2.15 The Permittee shall use the equations below to determine the hourly SO₂ emissions from each operating calciner:

$$E_{SO_2,i} = \frac{(2)(M_{KF,i})(C_{S,i})(2000)}{(100)(T_i)}$$

AIR QUALITY PERMIT

$$W_{SO_2,i} = (E_{SO_2,i})(1 - K_{c,i})$$

where:

$E_{SO_2,i}$ = Daily averaged pre-control SO_2 emission rate from the i^{th} calciner, lbs/hr;

2 = Mass conversion constant from sulfur to sulfur dioxide;

$M_{KF,i}$ = Quantity of the kiln feed processed by the i^{th} calciner during the calendar day, tons;

$C_{S,i}$ = Sulfur content of the kaolin slurry or calciner feed processed by the i^{th} calciner during the calendar day, percent by weight;

2000 = Conversion factor from tons to pounds;

100 = Conversion factor from mass percentage to mass ratio;

T_i = Total operating time of the i^{th} calciner during the calendar day, hour.

$W_{SO_2,i}$ = Daily averaged post-control SO_2 emission rate from the i^{th} calciner, lbs/hr;

$K_{c,i}$ = SO_2 control efficiency of the i^{th} calciner as determined by the most recent Division-approved performance test, weight percent.

The Permittee shall notify the Division in writing if any of daily averaged hourly post-control SO_2 emissions exceeds an average 34.25 pounds for any calendar day. This notification shall be submitted within 15 working days of the calculation and shall include a plan(s) of how the Permittee intends to attain future compliance with the SO_2 emission limit as specified in Condition 3.3.9.

- 6.2.16 The Permittee shall utilize the monthly calciner feed input rate records (ton per month) in Condition 6.2.3, the HCl and HF emission factors (pounds of HCl or HF emitted per ton of kiln feed), and control efficiencies established during the most recent Division-approved performance tests to calculate the monthly HCl and HF emission rates for each calciner during each calendar month. The Permittee shall notify the Division in writing if any monthly HCl or HF emission rate exceeds the notification level of one-twelfth (1/12) of the annual HCl or HF emission limit in Condition 3.3.12. This notification shall be postmarked by the 15th day of the following month and shall include an explanation of how the Permittee intends to attain or maintain compliance with the emission limit. [391-3-1-.02(6)(b)1 and 40 CFR 63.40 through 63.44/112(g) case-by-case MACT]
- 6.2.17 The Permittee shall use the monthly HCl and HF emission data in Condition 6.2.16 to calculate total HCl and HF emissions from each calciner during each period of 12 consecutive months. The Permittee shall notify the Division in writing if any 12-month rolling total of the HCl or HF emissions exceed the 8.70 ton or 37.92 ton limits in Condition 3.3.12. This notification shall be postmarked by the 15th day of the following

AIR QUALITY PERMIT

month and shall include an explanation of how the Permittee intends to attain future compliance with the annual HCl or HF emission limit.

[391-3-1-.02(6)(b)1 and 40 CFR 63.40 through 63.44/112(g) case-by-case MACT]

- 6.2.18 When controlling fugitive dust via weekly cleaning, the use of a vacuum street sweeper(s) or a truck washing station(s) as specified in Condition 3.2.3, the Permittee shall keep operation records of the control equipment involved. Description of inspection, maintenance, malfunction and corrections taken shall be included with the records.
[391-3-1-.02(6)(b)1]
- 6.2.19 The Permittee shall utilize the appropriate records in Condition 5.2.10 to calculate the CO₂e emissions from each spray dryer, calciner, 9.8 MMBtu/hr natural gas fired boiler, and all diesel generators combined during each period of twelve (12) consecutive months. The results of the calculated CO₂e emissions shall be expressed in the same units as the corresponding BACT limits listed in Condition 3.3.9. In the emissions calculation, the Permittee shall use CO₂e emission factors or testing data, which have been approved by the Division, and keep records of the calculations and all the emission factors or testing data utilized. The Permittee shall notify the Division in writing if any of the CO₂e emissions calculated exceed its corresponding limit specified in Condition 3.3.9. This notification shall be postmarked by the 15th day of the following month and shall include an explanation of how the Permittee intends to attain or maintain compliance with the emission limit.
[391-3-I-.02(6)(b)1 and 40 CFR 52.21 - PSD/BACT]
- 6.2.20 The Permittee shall submit an Initial Notification for each of the emergency stationary diesel generators (Emissions Unit ID Nos. EDG1, EDG2, EDG3 and EDG4) no later than 120 days after the startup of the diesel generator, following the applicable requirements under 40 CFR 63.9(b)(2)(i) through (v), with a statement that the diesel generator has no additional requirements and an explanation for the basis of the exclusion.
[40 CFR 63.6645(d)]
- 6.2.21 The Permittee shall retain monthly records of natural gas/LPG usage in each calciner, spray dryer, and boiler.
[391-3-1-.02(6)(b)1]
- 6.2.22 The Permittee shall utilize the appropriate records in Condition 6.2.3 to calculate the monthly total of VOC emissions from each Process Line (Nos. 1, 2, 3, and 4) during each calendar month. For the purpose of this condition, 100% of the VOC compounds contained in the additive(s) or chemical(s) added to the clay slurry are assumed to be emitted into the atmosphere from the spray dryers. The emission calculation shall sum the VOC emissions from the use of all VOC-containing chemicals and from the fuel combustion. All the emission calculations, including any Division-approved emission factors used, shall be kept as part of the records required in Condition 6.2.3. The Permittee shall notify the Division in writing if any monthly total exceeds the notification level of 1.14 tons, i.e. 1/12 of the annual emission limit of 13.64 tons in Condition 3.3.9 for each Process Line (pair of spray dryers). This notification shall be postmarked by the 15th day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the emission limit specified in Condition 3.3.9. [391-3-1-.02(6)(b)1]

AIR QUALITY PERMIT

- 6.2.23 The Permittee shall use the monthly VOC emission data in Condition 6.2.22 to calculate total VOC emissions from each Process Line (Nos. 1, 2, 3, and 4) for each period of 12 consecutive months. The Permittee shall notify the Division in writing if any 12-month rolling total exceeds any of the annual VOC emission limit(s) in Condition 3.3.9. This notification shall be postmarked by the 15th day of the following month and shall include an explanation of how the Permittee intends to attain future compliance with the annual emission limit.
[391-3-1-.02(6)(b)1]
- 6.2.24 The Permittee shall calculate and pay an annual Permit Fee to the Division. The amount of the fee shall be determined each year in accordance with the “Procedures for Calculating Air Permit Fees.”