Part 70 Operating Permit Amendment

Permit Amendment No.: 3295-319-0027-V-03-2 Effective Date: December, 16, 2009

Facility Name: **CARBO Ceramics, Inc. - McIntyre**
2295 Wriley Road
McIntyre, Georgia 31054 (Wilkinson County)

Mailing Address: 2295 Wriley Road
McIntyre, Georgia 31054

Parent/Holding Company: CARBO Ceramics, Inc.

Facility AIRS Number: 04-13-319-00027

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Georgia Rules for Air Quality Control, Chapter 391-3-1, adopted pursuant to and in effect under the Act, the Permittee described above is issued a construction and operating permit for:

> Construction and operation of a Raw Materials Calciner (CLN2) with associated supporting equipment, an emergency generator (EDG3), and implementation of best available control technology (BACT) on the entire ceramic pellet manufacturing facility for NO_X, SO_2, PM_{10}, and CO emissions which are above the major source threshold as specified in 40 CFR 52.21. Additionally, a case-by-case MACT is required on the Raw Materials Calciner (CLN2) due to potential HF and HCl emissions.

This Permit Amendment 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 Amendment and Permit No. 3295-319-0027-V-03-0. Unless modified or revoked, this Permit Amendment expires upon issuance of the next Part 70 Permit for this source.

This Permit Amendment 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. 18304 dated June 24, 2008 and revised on February 15, 2009 and August 14, 2009; any other applications upon which this Permit Amendment or Permit No. 3295-319-0027-V-03-0 are based; supporting data entered therein or attached thereto; or any subsequent submittal or supporting data; or for any alterations affecting the emissions from this source.

This Permit Amendment is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached **29** pages, which pages are a part of this Permit Amendment, and which hereby become part of Permit No. 3295-319-0027-V-03-0.

[Signed]

Director
Environmental Protection Division

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PART 1.0 FACILITY DESCRIPTION

1.3 Process Description of Modification

Carbo submitted an application for the addition of a new Raw Material Calciner (CLN2) with associated supporting equipment and the addition of a new 1.62 MMBTU/hr emergency generator (EDG3).

This application also proposes to apply BACT to CO, NO_X, PM/PM_{10} and SO_2 emissions from existing facility, because results of emission tests conducted in 2006 indicate that emissions of these criteria pollutants exceed either the corresponding major source thresholds or significant increase levels under NSR/PSD rules.

BACT will apply to the CO, NO_X, PM/PM_{10} and SO_2 emissions from the new Raw Material Calciner (CLN2) and associated equipment because these emissions also exceed either the corresponding major source thresholds or significant increase levels under NSR/PSD rules.

This permit application was updated on August 14, 2009 to include revised emission rates of hydrogen fluoride (HF) and hydrogen chloride (HCl) from the Direct-fired Rotary Calciners (Emission Unit ID Nos. KLN1 and KLN2) and the proposed Raw Materials Calciner No.2 (Emission Unit ID No. CLN2) based on performance testing conducted on May 27, 2009 and June 30, 2009. As such 40 CFR 63 Subpart B [a.k.a. 112(g)] requiring a case-by-case assessment of MACT for these Hazardous Air Pollutants (HAPs) are triggered.

PART 2.0 REQUIREMENTS PERTAINING TO THE ENTIRE FACILITY

2.1 Facility Wide Emission Caps and Operating Limits

None applicable.

2.2 Facility Wide Federal Rule Standards

2.2.2 The Permittee shall implement measures, including fencing, sign postings, and 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. 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

2.3.1 If any of the emission standards or requirements in this Permit is revised by EPA or the state after the issuance of this Permit, the Permittee shall comply with the revised standard(s) or requirement(s) on and after any applicable compliance date(s).
[391-3-1-.03(2)(c)]

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.

PART 3.0 REQUIREMENTS FOR EMISSION UNITS

3.1 Revised
Emission Units - Proposed units in bold

Emission Units		Specific Limitation(s)/Requirements		Air Pollution Control Devices	
ID No.(s)	Description	Applicable Requirement(s) / Standard(s)	Corresponding Permit Condition(s)	ID No.(s)	Description
Dryers and Calciner					
CMD1	Cage Mill	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.2.4, 3.3.1, 3.3.10, 3.3.11, 3.3.13, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 6.1.7, 6.2.12	BH01 BH02 BH03(SB)	Baghouse
CMFB	Calciner Feed Bin	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.2.1, 6.1.7	BH06	Baghouse
CLN1	Indirect-Fired Rotary Calciner No. 1	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(p)1 NSPS UUU 40 CFR Part 52.21	3.2.4, 3.3.2, 3.3.10, 3.3.11, 3.3.12, 3.3.13, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.2, 4.2.6, 4.2.8, 4.2.9, 4.2.11, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.2.7, 5.2.11, 5.2.12, 6.1.7, 6.2.11, 6.2.12, 6.2.13, 6.2.14	BH04 BH05(SB)	Baghouse
CNC	Calciner Cooler	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 40 CFR Part 52.21	3.3.13, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.2.7	BH24 BH25(SB)	Baghouse
CLN2 **CNC2**	**Raw Materials Calciner No. 2** **Calciner 2 Cooler**	**391-3-1-.02(2)(b)** **391-3-1-.02(2)(g)** **391-3-1-.02(2)(p)1** **NSPS UUU** **40 CFR Part 52.21** **40 CFR Part 63 B**	**3.2.4, 3.3.2, 3.3.10, 3.3.11, 3.3.12, 3.3.13, 3.3.15, 3.3.16, 3.3.17, 3.3.18, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.2, 4.2.3, 4.2.8, 4.2.9, 4.2.11, 4.2.12, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.2.7, 5.2.11, 5.2.12, 6.1.7, 6.2.10, 6.2.11, 6.2.12, 6.2.13, 6.2.14**	**BH44** **BH45**	**Baghouse**
DRY1	Dryer #1 (Rotary Dryer)	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(p)1 NSPS UUU 40 CFR Part 52.21	3.2.4, 3.3.2, 3.3.10, 3.3.11, 3.3.13, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.2, 4.2.6, 4.2.7, 4.2.9, 4.2.10, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.2.7, 5.2.11, 5.2.12, 6.1.7	BH11 BH12 BH13(SB)	Baghouse
DRY2	Dryer #2 (Rotary Dryer)	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(p)1 NSPS UUU 40 CFR Part 52.21	3.2.4, 3.3.2, 3.3.10, 3.3.11, 3.3.13, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.6, 4.2.9, 4.2.10, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.2.7, 5.2.11, 5.2.12, 6.1.7	BH14 BH15 BH16(SB)	Baghouse
KLN1	Kiln #1 (Rotary Calciner)	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(p)1 NSPS UUU 40 CFR Part 52.21	3.2.4, 3.3.2, 3.3.10, 3.3.11, 3.3.12, 3.3.13, 3.3.15, 3.3.17, 3.3.18, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.2, 4.2.6, 4.2.8, 4.2.9, 4.2.11, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.2.7, 5.2.11, 5.2.12, 6.1.7, 6.2.11, 6.2.12, 6.2.13, 6.2.14	BH17 BH18(SB)	Baghouse

Emission Units		Specific Limitation(s)/Requirements		Air Pollution Control Devices	
ID No.(s)	Description	Applicable Requirement(s) / Standard(s)	Corresponding Permit Condition(s)	ID No.(s)	Description
KLN2	Kiln #2 (Rotary Calciner)	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(p)1 NSPS UUU 40 CFR Part 52.21	3.2.4, 3.3.2, 3.3.10, 3.3.11, 3.3.12, 3.3.13, 3.3.15, 3.3.17, 3.3.18, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.6, 4.2.8, 4.2.9, 4.2.11, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.2.7, 5.2.11, 5.2.12, 6.1.7, 6.2.11, 6.2.12, 6.2.13, 6.2.14	BH19 BH28(SB)	Baghouse
Premills and Postmills					
BML1	Ball Mill #1	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH07	Baghouse
BML2	Ball Mill #2	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.2, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH08	Baghouse
PUL1	Pulverizer #1	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.2.4, 3.3.1, 3.3.10, 3.3.11, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.2, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.2.7, 6.1.7, 6.2.12	BH37	Baghouse
PUL2	Pulverizer #2	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.2.4, 3.3.1, 3.3.10, 3.3.11, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.2.7, 6.1.7, 6.2.12	BH38	Baghouse
Mixers					
MIX1	Mixer #1 Feed Bin	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH29	Baghouse
MIX2	Mixer #2 Feed Bin	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH29	Baghouse
MIX3	Mixer #3 Feed Bin	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH29	Baghouse
MIX4	Mixer #4 Feed Bin	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH30	Baghouse
MIX5	Mixer #5 Feed Bin	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH30	Baghouse
MIX6	Mixer #6 Feed Bin	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH30	Baghouse
MIX7	Mixer #7 Feed Bin	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH29	Baghouse

Emission Units		Specific Limitation(s)/Requirements		Air Pollution Control Devices	
ID No.(s)	Description	Applicable Requirement(s) / Standard(s)	Corresponding Permit Condition(s)	ID No.(s)	Description
MIX8	Mixer #8 Feed Bin	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH30	Baghouse
Screens					
PS01	Product Screen 2A	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH20	Baghouse
PS02	Product Screen 2B	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH21	Baghouse
PS03	Product Screen 1A	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH20	Baghouse
PS04	Product Screen 1B	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH21	Baghouse
Product Storage					
BS01	Product Storage #1-1	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH22	Baghouse
BS02	Product Storage #1-2	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH22	Baghouse
BS03	Product Storage #1-3	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH22	Baghouse
BS04	Product Storage # 1-4	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH22	Baghouse
BS05	Product Storage #1-5	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH22	Baghouse
BE12	#1 Product Bucket Elevator	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH22	Baghouse
BS06	Product Storage #2-1	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 5.2.3, 5.2.4, 4.2.5, 4.2.6, 6.1.7, 6.2.1	BH23	Baghouse
BS07	Product Storage #2-2	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH23	Baghouse

Emission Units		Specific Limitation(s)/Requirements		Air Pollution Control Devices	
ID No.(s)	**Description**	**Applicable Requirement(s) / Standard(s)**	**Corresponding Permit Condition(s)**	**ID No.(s)**	**Description**
BS08	Product Storage #2-3	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH23	Baghouse
BS09	Product Storage #2-4	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH23	Baghouse
BS10	Product Storage #2-5	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH23	Baghouse
BE18	Product Bagging Bucket Elevator	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH23 or BH22	Baghouse
BE15	#2 Product Bucket Elevator	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH23	Baghouse
BMS1	Ball Mill Screen 1	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH26	Baghouse
BE05	No. 1 Milled Product Bucket Elevator				
BMS2	Ball Mill Screen 2	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH27	Baghouse
BE06	No. 2 Milled Product Bucket Elevator				
BE08, PS05, PS06, PS07, KNF1, BE10	Proppant Nuisance System 1	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH09	Baghouse
BE09, PS08, PS09, PS10, KNF2, BE13	Proppant Nuisance System 2	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH10	Baghouse
DRC1	Dryer Cooler #1	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(p)1 40 CFR Part 52.21	3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH33	Baghouse
DRC2	Dryer Cooler #2	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(p)1 40 CFR Part 52.21	3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH34	Baghouse
BC13, BE01	Raw Material Unloading Conveyor	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH35	Baghouse
PBB PB1	Bagging Bin Product Bagger #1	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH32	Baghouse

Emission Units		Specific Limitation(s)/Requirements		Air Pollution Control Devices	
ID No.(s)	Description	Applicable Requirement(s) / Standard(s)	Corresponding Permit Condition(s)	ID No.(s)	Description
PS11	Rescreen	391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21	3.3.1, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.5, 4.2.6, 5.2.3, 5.2.4, 6.1.7, 6.2.1	BH32	Baghouse
PL1	**Product Loadout# 1**	**391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21**	**3.3.9, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.8, 6.2.9, 6.2.10**	**BH32**	**Baghouse**
PL2	**Product Loadout# 2**	**391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21**	**3.3.9, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.8, 6.2.9, 6.2.10**	**BH32**	**Baghouse**
CBRH	**Calciner 2 B Reclaim Hopper**	**391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21**	**3.3.9, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.8, 6.2.9, 6.2.10**	**BH43**	**Baghouse**
RCFB	**Calciner 2 Feed Bin**	**391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21**	**3.3.9, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.8, 6.2.9, 6.2.10**	**BH43**	**Baghouse**
BE21	**Calciner 2B Bucket Elevator**	**391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21**	**3.3.9, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.8, 6.2.9, 6.2.10**	**BH43**	**Baghouse**
BC37	**Calciner 2B Reclaim Belt Conveyor**	**391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21**	**3.3.9, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.8, 6.2.9, 6.2.10**	**BH43**	**Baghouse**
BC38	**Calciner 2 Feed Conveyor**	**391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21**	**3.3.9, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.8, 6.2.9, 6.2.10**	**BH43**	**Baghouse**
BC39	**Calciner 2K Reclaim Conveyor**	**391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21**	**3.3.9, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.8, 6.2.9, 6.2.10**	**BH43**	**Baghouse**
BC40	**Calciner 2 Cooler Discharge Conveyor**	**391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21**	**3.3.9, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.8, 6.2.9, 6.2.10**	**BH35**	**Baghouse**
BC41	**Calciner 2 Product Transfer Conveyor**	**391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21**	**3.3.9, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.8, 6.2.9, 6.2.10**	**BH35**	**Baghouse**
BC42	**Raw Materials Silos Feed**	**391-3-1-.02(2)(b) 391-3-1-.02(2)(p)1 NSPS OOO 40 CFR Part 52.21**	**3.3.9, 3.3.13, 3.3.14, 3.3.15, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.8, 6.2.9, 6.2.10**	**BH35**	**Baghouse**

Emission Units		Specific Limitation(s)/Requirements		Air Pollution Control Devices	
ID No.(s)	**Description**	**Applicable Requirement(s) / Standard(s)**	**Corresponding Permit Condition(s)**	**ID No.(s)**	**Description**
EDG1	Emergency Generator No. 1 (9 MMBTU/hr)	391-3-1-.02(2)(b) 391-3-1-.02(2)(g)	3.2.5, 3.3.5, 3.3.6, 3.3.7, 3.3.8, 3.3.15, 5.2.8, 6.1.7, 6.2.4, 6.2.5, 6.2.6, 6.2.7	N/a	None
EDG2	Emergency Generator No. 2 (9 MMBTU/hr)	391-3-1-.02(2)(b) 391-3-1-.02(2)(g)	3.2.5, 3.3.5, 3.3.6, 3.3.7, 3.3.8, 3.3.15, 5.2.8, 6.1.7, 6.2.4, 6.2.5, 6.2.6, 6.2.7	N/a	None
EDG3	**Emergency Generator No. 3 (1.62 MMBTU/hr)**	**391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 40 CFR 60 Subpart IIII**	**3.2.5, 3.3.3, 3.3.4, 3.3.5, 3.3.6, 3.3.7, 3.3.8, 3.3.15, 5.2.8, 6.1.7, 6.2.4, 6.2.5, 6.2.6, 6.2.7, 6.2.10**	**N/a**	**None**

* 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 Deleted (Reserved)

3.2.2 Deleted (Reserved)

3.2.3 The Permittee shall implement measures to remove kaolin residue from plant 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 Permittee shall only use natural gas and/or propane as fuel in Direct–fired Rotary Calciner 1 (KLN1), Direct–fired Rotary Calciner 2 (KLN2), Indirect-fired Rotary Calciner (CLN1), Raw Material Calciner No. 2 (CLN2), Rotary Dryer No. 1 (DRY1), Rotary Dryer No. 2 (DRY2), Pulverizer No. 1 (PUL1), Pulverizer No. 2 (PUL2), and Cage Mill No. 1 (CMD1).
[40 CFR 52.21, PSD/BACT, 391-3-1-.02(2)(g) subsumed]

3.2.5 The accumulated annual operating time for <u>each</u> of the stationary emergency diesel generator/engine Nos. 1, 2, and 3 (EDG1, EDG2, and EDG3) shall not exceed 500 hours per year and shall only be used when power is not available.
[40 CFR 52.21(j), PSD/BACT, 391-3-1-.03(6)(b)(11)(v)(l)]

3.3 Equipment Federal Rule Standards

<u>Revised</u>

3.3.1 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, for affected facilities/sources subject to Subpart OOO that were constructed, modified, or reconstructed after August 31, 1983 but before April 22, 2008, the Permittee shall comply with the following emissions requirements 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 greater than 10 percent opacity except for any crusher that does not use a capture system, which shall not exhibit fugitive emissions greater than 15 percent opacity.

b. stack emissions from capture systems feeding a dry control device which:

i. contain particulate matter in excess of 0.05 g/dscm (0.022 grains/dscf) except for individually enclosed storage bins.

ii. exhibit greater than 7 percent opacity.

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 aforementioned vent shall not:

i. contain particulate matter in excess of 0.05 g/dscm (0.022 grains/dscf).
ii. exhibit greater than 7 percent opacity.

Note:

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

- Any baghouse that controls emissions from only an individually enclosed storage bin is exempt from the stack PM concentration limit (and associated performance testing) in paragraph b.i but shall meet the stack opacity limit in paragraph b.ii.

- The emission limit in paragraph b.ii with associated opacity testing requirements do not apply for affected facilities using wet scrubbers).

3.3.3 Stationary emergency diesel generator/engine No. 3 (Emissions Unit ID No. EDG3) shall be 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 engines.
[40 CFR 52.21 – PSD /BACT, 40 CFR 60.4206 & 60.4211(a)]

3.3.4 Stationary emergency diesel generator/engine No. 3 (Emissions Unit ID No. EDG3) shall be certified for emission standards from new nonroad compression ignition engines specified in 40 CFR 89.112 and 40 CFR 89.113 for the applicable model year and engine rated power.

[40 CFR 52.21 PSD/BACT, 40 CFR 60.4205 subsumed, 60.4211(b)(1) and 60.4211(c)]

3.3.5 The Permittee shall operate each of the stationary emergency diesel generators/engines Nos. 1, 2 and 3 (EDG1, EDG2 and EDG3) using diesel fuel that has a maximum sulfur content of 500 parts per million (ppm) (0.05% by weight) and either a minimum cetane index of 40 or maximum aromatic content of 35 volume percent. Beginning on October 1, 2010, the Permittee shall only use diesel fuel that has a maximum sulfur content of 15 ppm (0.0015% by weight) and either a minimum cetane index of 40 or maximum aromatic content of 35 volume percent.
[40 CFR 60.4207 or 40CFR52.21-PSD/BACT]

3.3.6 The accumulated maintenance checks and readiness testing time for each of the stationary emergency diesel generators/engines shall not exceed 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 new emergency stationary diesel engine/generator beyond 100 hours per year. Any operation other than emergency power generation, and maintenance check and readiness testing is prohibited.
[40 CFR Part 52.21 and 40 CFR 60.4211(e)]

3.3.7 Stationary emergency diesel generator/engine No. 3 (Emissions Unit ID No. EDG3) and any associated control devices if applicable, shall be installed and configured according to the manufacturer's written instructions.
[40 CFR 52.21 – PSD /BACT, , 40 CFR 60.4206 & 60.4211(a)]

3.3.8 Reserved

3.3.9 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, for sources subject to Subpart OOO that were constructed, modified, or reconstructed on or after April 22, 2008, 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

- 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.

3.3.10 Nitrogen Oxide (NO_X) emissions from the sources identified below shall not equal or exceed the following:
[40 CFR 52.21 - PSD/BACT]

Emission Unit	Emission Unit ID	Emission Limit (lb/hr)
Rotary Calciner Kiln #1	KLN1	82.0
Rotary Calciner Kiln #2	KLN2	82.0
Rotary Dryer No. 1	DRY1	5.32
Rotary Dryer No. 2	DRY2	5.32
Pulverizer No. 1	PUL1	10.0
Pulverizer No. 2	PUL2	10.0
Cage Mill No. 1	CMD1	12.0
Indirect-Fired Rotary Calciner No. 1	CLN1	5.0
Raw Material Calciner No. 2	CLN2	40.0

3.3.11 Carbon Monoxide (CO) emissions from the sources identified below shall not equal or exceed the following BACT emissions standards:
[40 CFR 52.21 - PSD/BACT]

Emission Unit	Emission Unit ID	Emission Limit (lb/hr)
Rotary Calciner Kiln #1	KLN1	24.5
Rotary Calciner Kiln #2	KLN2	24.5
Rotary Dryer No. 1	DRY1	13.8
Rotary Dryer No. 2	DRY2	13.8
Pulverizer No. 1	PUL1	3.5
Pulverizer No. 2	PUL2	3.5
Cage Mill No. 1	CMD1	6.75

Emission Unit	Emission Unit ID	Emission Limit (lb/hr)
Indirect-Fired Rotary Calciner No. 1	CLN1	6.3
Raw Material Calciner No. 2	CLN2	20.0

3.3.12 Sulfur Dioxide (SO_2) emissions from the sources identified below shall not equal or exceed the following BACT emissions standards:
[40 CFR 52.21 - PSD/BACT]

Emission Unit	Emission Unit ID	Emission Limit (lb/hr)
Rotary Calciner Kiln #1	KLN1	34.25
Rotary Calciner Kiln #2	KLN2	34.25
Indirect-Fired Rotary Calciner No. 1	CLN1	32.0
Raw Material Calciner No. 2	CLN2	34.25

3.3.13 Particulate Matter (PM)/Particulate Matter less than 10 microns (PM_{10}) emissions from each of the sources identified below shall not exceed the following BACT emissions standards:
[40 CFR 52.21 - PSD/BACT]

Emission Unit	**Emission Unit ID**	**Control Device ID**	**Emission Limit (gr/dscf)**
Rotary Dryer No. 1 Rotary Dryer No. 2	DRY1 DRY2	BH11, BH12, BH13 BH14, BH15, BH16	0.020
Pulverizer No. 1 Pulverizer No. 2	PUL1 PUL2	BH37 BH38	0.022
Rotary Calciner Kiln #1 Rotary Calciner Kiln #2 Cage Mill No. 1 Indirect-Fired Rotary Calciner No. 1 Raw Material Calciner No. 2	KLN1 KLN2 CMD1 CLN1 CLN2	BH17, BH18 BH19, BH28 BH01, BH02, BH03 BH04, BH05 BH44, BH45	0.010
Calciner Feed Bin	CMFB	BH06	
Ball Mill #1	BML1	BH07	
Ball Mill #2	BML2	BH08	
#1 Dryer Bucket Elevator #1 Kiln Alternate Bucket Elevator Kiln 1 Feed Bin Process Screens 1A, 1B, 1C	BE08, BE10, KNF1, PS05, PS06, PS07	BH09	
#2 Dryer Bucket Elevator #2 Kiln Alternate Bucket Elevator Kiln 2 Feed Bin Process Screens 2A, 2B, 2C	BE09, BE13, KNF2, PS08, PS09, PS10	BH10	0.010
Product Screen 1a, 2a, #1 Kiln Bucket Elevator	PSO1, PSO3, BE11	BH20	
Product Screen 1b, 2b, #2 Kiln Bucket Elevator	PSO2, PSO4, BE14	BH21	
Product Storage Silos 1-1, 1-2, 1-3, 1-4, 1-5 #1 Product Bucket Elevator Product Bagging Elevator	BS01, BSO2, BS03, BS04, BS05, BE12, BE18	BH22	
Product Storage Silos 2-1, 2-2, 2-3, 2-4, 2-5 #2 Product Bucket Elevator Product Bagging Elevator	BS06, BS07, BS08, BS09, BS10, BE15, BE18	BH23	

Emission Unit	Emission Unit ID	Control Device ID	Emission Limit (gr/dscf)
Calciner Cooler	CNC	BH24 BH25	0.010
Ball Mill Screen #1 No.1 Milled Products Bucket Elevator	BMS1 BE05	BH26	
Ball Mill Screen #2 No.2 Milled Products Bucket Elevator	BMS2 BE06	BH27	
Mixer 1 Mixer 2 Mixer 3 Mixer 7	MIX1, MIX2, MIX3, MIX7	BH29	
Mixer 4 Mixer 5 Mixer 6 Mixer 8	MIX4, MIX5, MIX6, MIX8	BH30	
Product Loadout# 1 and 2, Product Bagging Bin, Product Bagger #1, Rescreener.	PL1, PL2, PBB, PB1, PS11	BH32	0.010
Dryer Cooler #1	DRC1	BH33	
Dryer Cooler #2	DRC2	BH34	
Raw Material Storage Bucket Elevator Raw Material Unloading Belt Conveyor	BE01 BC13	BH35	
Calciner 2 B Reclaim Hopper **Calciner 2 Feed Bin** **Calciner 2B Bucket Elevator** **Calciner 2B Reclaim Belt Conveyor** **Calciner 2 Feed Conveyor** **Calciner 2K Reclaim Conveyor**	**CBRH** **RCFB** **BE21** **BC37** **BC38** **BC39**	BH43	

3.3.14 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from any process equipment except for Spray Dryers and Calciners/kilns, any gases which exhibit visible emissions, the opacity of which is equal to or greater than 7 percent. Visible emissions limit for the Spray Dryers and Calciners/kilns is less than 10 percent opacity. [40 CFR 52.21 - PSD/BACT]

3.3.15 The Permittee shall use the following technologies and/or procedures to comply with the relevant BACT emission limits:
[40 CFR 52.21-PSD/BACT]

a. NO_X emissions:

i. Good Combustion Techniques (e.g., those 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 burner;

iii. Use of “clean fuels”, i.e., natural gas and propane.

b. Stack PM emissions:

i. Fabric filters/baghouses

c. Fugitive Emissions:

i. Wet suppression or timely cleanup;

ii. Enclosure if applicable;

iii. Covering if applicable.

d. SO_2 emissions:

i. Use of "clean fuels", i.e., natural gas and propane.

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.

The Permittee shall develop written operation, inspection and maintenance procedures and work practice requirements/plans with regard to paragraphs a, b, c, d and e of this condition. These procedures and requirements/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.

3.3.16 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]

3.3.17 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from the New Raw Material Calciner No. 2 (CLN2), any gases, which contain Hydrogen Fluoride (HF) emissions equal to or greater than 0.21 lbs/ton of kiln feed and not to exceed 36.3 tons per year.
[112(g) Case-by-Case MACT]

3.3.18 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from the New Raw Material Calciner No. 2 (CLN2), any gases, which contain Hydrogen Chloride (HCl) emissions equal to or greater than 0.036 lbs/ton of kiln feed and not to exceed 6.26 tons per year.
[112(g) Case-by-Case MACT]

PART 4.0 REQUIREMENTS FOR TESTING

4.1 General Testing Requirements

Revised

4.1.3 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 3.2, 3.3, 3.4 and 3.5 are as follows:

a. Method 1 for the determination of sample point locations,

b. Method 2 for the determination of flow rate,

c. Method 3 or 3A for the determination of stack gas molecular weight,

d. Method 4 for the determination of stack gas moisture,

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

f. Method 6 or 6C for the determination of the concentration of Sulfur Dioxide,

g. Method 7 or 7E for the determination of the concentration of Nitrogen Oxides,

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

i. Method 10 for the determination of the concentration of Carbon Monoxide,

j. Method 22 for the visual determination of fugitive emissions.

k. Method 13B: Total Fluoride

l. Method 201 or 201 A in conjunction with Method 202 (if required) for the determination of PM_{10} emissions. As an alternative, the Permittee may assume that 100% of the PM emissions from the baghouses determined by Method 5 are PM_{10}.

m. Method 19, when applicable, to convert if necessary PM, CO, SO_2 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).

n. Method 26 and 26A: Hydrogen Chloride (and other hydrogen halides and halogens)

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)]

4.2 Specific Testing Requirements

4.2.2 Within 180 days of issuance of this permit amendment, the Permittee shall conduct performance tests as specified in the following table. Raw Materials Calciner No. 2 and all supporting equipment shall be tested within 180 days of start-up:
[391-3-1-.02(6)(b)1(i), 40 CFR 52.21 – PSD/BACT, 40 CFR 60.11 and 60.675(c)(2)]]

Emission Unit	Emission Unit ID	Emissions to be tested
Pulverizer No. 1	PUL1	Visible Emissions PM_{10}
Rotary Dryer No. 1	DRY 1	NO_X CO
Direct-fired Rotary Calciner No. 1	KLN1	NO_X SO_2 PM_{10}
Indirect-fired Rotary Calciner	CLN1	NO_X SO_2 PM_{10}
Raw Material Calciner No.2	**CLN2**	**NO_X** **CO** **SO_2** **HF** **HCl** **PM_{10}**
Stack emission sources constructed as part of this modification excluding calciners, Generator #3 and silos with dedicated bin vents	(refer to Table 3.1 of this permit amendment)	VE PM_{10}

a. Suitable methods shall be used to determine the calciner/kiln feed rate for each run.

b. The visible emissions from each spray dryer and calciner/kiln 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:

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. Methods 201 (or 201A) and 202 tests are not required if all the PM emissions as determined using Method 5 are assumed as PM_{10}.

e. For the purpose of this condition, calciner/kiln operating day means a 24-hour period between 12:00 midnight and the following midnight during which the calciner/kiln is operated.

f. 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).

g. 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.

4.2.3 Within 60 days after achieving the maximum production rate at which each of the new Raw Material Calciner/kiln (Emission Unit ID Nos. CLN2) will be operated, but no later than 180 days of the initial startup of the source, the Permittee shall determine compliance with the NSPS 40 CFR 60 Subpart UUU PM and visible emission limits in Condition 3.3.2 under 40 CFR 60.732 as follows:
[40 CFR 60.736]

a. Method 5 or Method 17 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.

4.2.4 Within 60 days after achieving the maximum production rate at which the new supporting equipment associated with new Raw Material Calciner/kiln (Emission Unit ID Nos. CLN2) 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 3.3.9 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 testing shall be 1 hour (ten 6-minute averages).

v. The duration of the Method 9 testing 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.

b. To demonstrate compliance with the fugitive emission limits for buildings specified in Condition 3.3.9, the Permittee shall complete the testing specified below. Performance tests must be conducted while all affected facilities inside the building are operating.

i. If the building encloses any affected facility constructed, modified, or reconstructed on or after April 22, 2008, the Permittee shall conduct an initial Method 9 according to this condition and 40 CFR 60.11.

ii. If the building encloses only affected facilities constructed, modified, or reconstructed before April 22, 2008, and the Permittee has previously conducted an initial Method 22 test showing zero visible emissions, then the Permittee has demonstrated compliance with the opacity limit in Condition 3.3.9. If the Permittee has not conducted an initial performance test for the building before April 22, 2008, then the Permittee shall conduct an initial Method 9 test according to this condition and 40 CFR 60.11 to show compliance with the opacity limit in Condition 3.3.9.

c. Subsequent testing shall be performed as required by Table 3 to 40 CFR 60 Subpart OOO as applicable.

4.2.5 When determining compliance with the fugitive emissions standard for any affected facility described under Conditions 3.3.1 and 3.3.9 the duration of the Method 9 observations shall be 30 minutes (five 6-minute average). Compliance with the applicable fugitive emission limits shall be based on the average of the five 6-minute averages.
[40 CFR 60.675(c)(3)]

4.2.6 The Permittee may use the following as alternatives to the reference methods and procedures specified in Conditions 4.2.4 and 4.2.5:
[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 Conditions 4.2.4 and 4.2.5.

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.

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 H_2O (0.05 in. H_2O)] 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).

4.2.7 For performance tests required in Condition 4.2.4 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)]

4.2.8 The Permittee shall conduct annual CO emission performance tests on each Calciner/Kiln (Emission Unit ID Nos. KLN1, KLN2, CLN1, and CLN2) to demonstrate compliance with the BACT emission limits of Condition No. 3.3.11.
[391-3-1-.02(3) and 3-1-3-1-.03(2)(c)]

4.2.9 Every three years the Permittee shall conduct PM/PM_{10} emission performance tests on each calciner/kiln (Emission Unit ID Nos. KLN1, KLN2, CLN1, and CLN2) and one of the dryers to demonstrate compliance with the BACT emission limits in Condition 3.3.13. The dryers shall be tested on a rotating schedule.
[391-3-1-.02(3) and 3-1-3-1-.03(2)(c)]

4.2.10 Every three years the Permittee shall conduct NO_X and CO emission performance tests on one of the rotary dryers to demonstrate compliance with the BACT emission limits in Conditions 3.3.10 & 3.3.11.
[391-3-1-.02(3) and 3-1-3-1-.03(2)(c)]

4.2.11 The Permittee shall conduct annual NO_X and SO_2 emission performance tests on each calciner/kiln (Emission Unit ID Nos. KLN1, KLN2, CLN1, and CLN2)to demonstrate compliance with the BACT emission limits in Conditions 3.3.10 & 3.3.12.
[40 CFR 52.21, 391-3-1-.02(3) and 3-1-3-1-.03(2)(c)]

4.2.12 The Permittee shall conduct annual HCl and HF emission performance tests on the New Raw Materials Calciner CLN2 to demonstrate that the calciner is in compliance with the case-by-case MACT emission limits in Condition 3.3.17 and 3.3.18.
[40 CFR 63.40 through 63.44/112(g) case-by-case MACT and 391-3-1-.02(6)(b)1(i)]

PART 5.0 REQUIREMENTS FOR MONITORING (Related to Data Collection)

5.2 Specific Monitoring Requirements

Revised

5.2.1 By the deadlines specified in the table below, 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 demonstrate continuous compliance with the applicable emission standards in this permit.
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

Emission Unit	Emission Unit ID	Emission	Continuous Monitoring System	Installation Location
Rotary Calciner Kiln No. 1	KLN1	Visible	Installed	Outlet of the Kiln No. 1 Baghouses (BH17, BH18(SB)
Rotary Calciner Kiln No. 2	KLN2	Visible	Installed	Outlet of the Kiln No. 2 Baghouses BH19, BH28(SB)
Indirect-Fired Rotary Calciner No. 1	CLN1	Visible	Installed	Outlet of the Indirect-Fired Rotary Calciner Baghouses (BH04, BH05(SB)
Raw Materials Calciner No. 2	CLN2	Visible	Upon startup	Outlet of the Raw Materials Calciner Baghouses (BH44 & BH45)

a. 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 3.3.1, 3.3.2 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.

Revised

5.2.2 The Permittee shall install a device to continuously monitor the temperature at the inlet of baghouses BH01, BH02, BH03 (SB) for CMD1, BH7, BH8, BH11, BH12, BH13(SB) for DRY1, BH14, BH15, BH16(SB) for DRY 2, BH04, BH05(SB) for Calciner CLN1, BH17, BH18(SB) for Kiln #1 KLN1, BH19, BH28 (SB) for Kiln #2 KLN2, **baghouses BH44 and BH45 for Raw Materials Calciner CLN2,** and record the time and date and duration of each incident when the temperature exceeds the 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 calciner outlet temperature). For each baghouse monitored by a surrogate temperature, the Permittee shall determine the equivalent filter bag design temperature and record each incident when the surrogate temperature exceeds the equivalent filter bag design temperature. The Permittee shall record the filter bag design temperature or the equivalent filter bag design temperature for each baghouse listed. Such records and any supporting calculations shall be made available for inspection.
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

5.2.8 Each of the stationary emergency diesel generators/engines Nos. 1, 2, and 3 (EDG1, EDG2, and EDG3) 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 engine/generator was in operation during that time.
[40 CFR 60.4209(c), 60.4214(b), and 40 CFR 52.21]

5.2.9 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 4.2.2 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)]

5.2.10 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 operating records on 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 and 40 CFR 70.6(a)(3)(i)]

5.2.11 The Permittee shall monitor emissions of nitrogen oxides from the exhaust gases from each kiln stack for each week or portion of week of operation of each calciner/kiln using the following procedures:
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

a. Within 60 days of the issuance of this permit, the Permittee shall begin to conduct measurements of NO_X and oxygen (O_2) concentration in the exhaust gas of each existing calciner/kiln. Same measurements shall be conducted on the new calciner/kiln within 60 days of the commence of operation of the calciner/kiln. 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 NO_X and O_2 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 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.

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

where:

$$E = K \times C_d \times Q_{std} \times \left(\frac{20.9}{20.9 - O_2} \right)$$

E = Mass emissions of nitrogen oxides (lb/hr);

K = Conversion factor for NO_X = 1.194 x 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 kiln exhaust measured by Method 2, data from a continuous flow monitor, installed as per Condition 5.2.12 of this permit, taken concurrently with the NO_x measurements can be used.

O_2 = Exhaust Gas Oxygen Concentration (percent by volume, dry basis)

d. Following the initial measurement, the Permittee shall conduct a measurement each calendar week or portion of calendar week for each kiln/calciner. Weekly measurements shall continue until three (3) consecutive weekly measurements for Rotary Calciner Kilns #1(KLN1) and #2 (KLN2) are each less than 61.5 lb/hr and for Raw Material Calciner No. 2 (CLN2) less than 30 lbs/hr. Following three (3) consecutive weekly measurements, 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 61.5 lb/hr and 30 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 5.2.11(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.

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 82 lbs/hr for Rotary Calciner Kilns #1(KLN1) and #2 (KLN2) and 40 lb/hr for Raw Material Calciner No. 2 (CLN2) shall be reported to the Division in writing with 15 working days of measurement. The report shall include calciner/kiln exhaust flow rate and kiln feed rate during the NO_X measurement.

5.2.12 In lieu of the exhaust flow rate measured by Method 2 for each calciner/kiln as per Condition 5.2.11, the Permittee may install, calibrate, maintain, and operate according to all applicable performance specifications a flow monitor to continuously measure the exhaust from each calciner/kiln.

PART 6.0 OTHER RECORD KEEPING AND REPORTING REQUIREMENTS

6.1 General Record Keeping and Reporting Requirements

Revised

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:
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

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)

i. None required to be reported in accordance with Condition 6.1.4.

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 SO_2 emission standard/limit in Condition 3.3.12 for calciners/kilns as determined via Condition 6.2.12.

ii. Each exceedance of visible emission standard/limit of 10% opacity in Condition 3.3.14 for calciners/kilns, as indicated by COMS required by Condition 5.2.1.

iii. Firing any of the rotary dryers, pulverizers, cage mills, calciners, and kilns with fuel(s) other than natural gas and propane.

iv. Any instance of firing any of the stationary emergency diesel generators/engines subject to Condition 3.3.5 with diesel fuel that:

- **Contains more than 0.05% sulfur by weight; contains either more than 35% by volume of aromatic content or has a cetane index of less than 40; or**

- **Contains more than 0.0015% sulfur by weight; contains either more than 35% by volume of aromatic content or has a cetane index of less than 40 on and after October 1, 2010.**

v. Any instance of operating any of the stationary emergency diesel generators/engines for more than 500 hours during any period of 12 rolling/consecutive months as limited by Condition 3.2.5.

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. 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 above the opacity action level.

ii. Any 3-hour rolling average 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.

iii. Each instance of not following the procedure in the Preventive Maintenance Program specified in Condition 5.2.4.

iv. Each event that the quarterly 30-minute visible emissions inspection required by Condition 5.2.9 was not conducted.

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 5.2.11h during the semiannual reporting period.

6.2 Specific Record Keeping and Reporting Requirements

6.2.4 The Permittee shall maintain monthly operating records of each of the stationary emergency diesel generators/engines Nos. 1, 2, and 3 (Emissions Unit ID Nos. EDG1, EDG2, and EDG3) subject to Conditions 3.3.6 and/or 3.2.5, 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)]

6.2.5 The Permittee shall use monthly operating time records required by Condition 6.2.4 to calculate monthly the 12 month rolling total of the operating and/or maintenance check and readiness testing time for each generator/engines specified in Condition 6.2.4 for each calendar month. All the calculations shall be kept as part of the records required in Condition 6.2.4. 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. 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 3.3.6 or 3.2.5.
[40 CFR 60.4211(e) & 391-3-1-.03(6)(b)11(v)(l)]

6.2.6 The Permittee shall keep records verifying that each shipment of diesel fuel received for firing the stationary emergency diesel generators/engines No. 1, 2, and 3 (EDG1, EDG2 and EDG3) complies with the applicable requirements in Condition 3.3.5. 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]

6.2.7 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]

6.2.8 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 3.3.9 per 40 CFR 60.672, including reports of opacity observations made using Method 9 or Method 22 to demonstrate compliance with Condition 3.3.9.
[40 CFR 60.676(f)]

6.2.9 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)]

6.2.10 The Permittee shall furnish the Division written notification of the date of the initial startup of the new Raw Material Calciner (CLN2) with associated supporting equipment and new emergency generator (EDG3) within 15 days after such date.
[391-3-1-.03(2)(c)]

6.2.11 The Permittee shall maintain a record of the operating hours and the daily input rate of kiln feed to each of the calciners/kilns (Emission Unit ID No. KLN1, KLN2, CLN1, and CLN2). The Permittee shall obtain a representative sample daily from each calciner/kiln's feed stream feeding any calciner/kiln 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 SO_2 emissions as required by Condition 6.2.12.
[391-3-I-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

6.2.12 The Permittee shall use the equation below to determine the hourly SO_2 emissions from each calciner/kiln:

$$E_{SO2,i} = \frac{(2)(M_{KF,i})(C_{S,i})(2000)}{(100)(T_i)}$$

where:

$E_{SO2, i}$ = Daily SO_2 emission rate from the i^{th} calciner/kiln, 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/kiln during the calendar day, ton/day;

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

2000 = Conversion constant from ton to pound;

100 = Conversion constant from mass percentage to mass ratio;

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

The Permittee shall notify the Division in writing if any of the daily average SO_2 emissions exceeds the emissions requirements in Condition 3.3.12 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 3.3.12.
[40 CFR 52.21-PSD/BACT, 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)]

6.2.13 The Permittee shall utilize the monthly calciner/kiln feed input rate records (ton per month) in Condition 6.2.11 and the HCl and HF emission factors (pounds of HCl or HF emitted per ton of feed) established during the most recent Division-approved performance tests to calculate the monthly HCl and HF emission rates for the Raw Material Calciner (CLN2) 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 Conditions 3.3.17 and 3.3.18. 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 70.6(a)(3)]

6.2.14 The Permittee shall use the monthly HCl and HF emission data in Condition 6.2.13 to calculate total HCl and HF emissions from the Raw Material Calciner (CLN2) 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 6.26 tons or 38.27 tons limit in Conditions 3.3.17 and 3.3.18. 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 HCl or HF emission limit.
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)]

PART 7.0 OTHER SPECIFIC REQUIREMENTS

7.7 Compliance Schedule/Progress Reports
[391-3-1-.03(10)(d)3 and 40 CFR 70.6(c)(4)]

7.2.1 Deleted

7.2.2 Deleted

7.14 Specific Conditions Associated with this Amendment

7.14.1 Approval to construct the new Raw Material Calciner (CLN2) with associated supporting equipment by this permit amendment shall become invalid for any of the following reasons:

a. The construction is not commenced within 18 months after issuance of this permit amendment;

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. In conjunction with an extension of the 18-month period to commence or continue construction (or to construct the project in phases), the Division may require the Permittee to demonstrate the adequacy of any previous determination of Best Available Control Technology (BACT) for emissions units regulated by the project. For good cause, the Permittee may request that this permit be extended in writing at least 60 days prior to the expiration of the 18-month period. For purposes of this permit amendment, the definition of "commence" is given in 40 CFR 52.21(b)(9).
[40 CFR 52.21(r)]