

APPLICANT: Cherokee Sanford Group, Inc Lee County Facility	SITE LOCATION: Sanford	COUNTY: Lee
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REVIEW ENGINEER: Contract-Leo H. Stander, PE, DEE Kevin Godwin	SIGNATURE:	DATE: XX
REGIONAL CONTACT: Charles McEachern	REGIONAL OFFICE: Raleigh Regional Office	SIC CODE: 3251
APPLICATION NUMBER: 530004A5.A	EXISTING PERMIT NUMBER: 04712R17	NEW PERMIT NUMBER: 04712T18

I. Introduction

The U.S. Environmental Protection Agency (EPA) has given final approval to North Carolina’s Title V operating permits program effective on October 1, 2001. This EPA approval triggered the requirements for Title V facilities to submit permit applications to the Division of Air Quality. Title V facilities are required to obtain an operating permit which addresses all applicable regulations under the State Implementation Plan, Federal Implementation Plan, and other provisions of the Clean Air Act (CAA). The Title V Operating Permit will define all of the facility’s obligations under the CAA.

This Initial Title V Air Permit application Review intends to convey all pertinent emissions data, rules, policies, and engineering assumptions used to construct the Title V operating permit. The primary source of information used to construct the permit is the above referenced air permit application

II. Background Information

The Title V Operating Permit replaces the existing Air Quality Construction and Operation Permits No. 04712R17, issued on November 7, 2000, and currently scheduled to expire on September 30, 2004.

Pursuant to 15A NCAC 2Q .0506, Cherokee Sanford Group submitted its initial Title V application for the Lee County Facility to the Division of Air Quality on May 13, 1996. The application was considered complete for processing on July 12, 1996. The draft permit will be noticed to the public pursuant to 15A NCAC 2Q .0521.

Potential emissions of EPA listed hazardous air pollutants, principally hydrogen fluoride and hydrogen chloride, exceed 25 tons per year.

The brick kilns and the clay mining and processing equipment in the facility were placed in operation prior to 1970.

III. Facility Description

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The Cherokee Sanford Group Lee County, North Carolina facility manufactures bricks. Clay is taken from stockpiles, hammer milled, and screened to a fine texture. The material is then mixed with water and “green” (wet) bricks are extruded. Next, a sand, silicon, or iron finish is applied to some brick products to provide texture and color. The bricks are then cut and stacked into piles ready to be fed into the brick dryers and then the kilns.

The kiln process captures waste heat from one part of the process in order to dry material in another part of the process. Kilns have four distinct parts: the dryer, pre-heater, firing zone, and cooling zone. The bricks are solidified in the firing zone. The kiln drafts ambient air into the cooling zone and cools the fired brick to approximately 500F. The heated air is then ducted to the pre-heater in order to remove the last 1% percent of moisture in the green brick and to begin the thermal uptake of the bricks. The gases are then exhausted to the atmosphere.

Since the two kilns use sawdust, the excess heat from the firing zone is recycled for use in the rotary sawdust dryer in order to prepare the kiln fuel. Wet sawdust is stored in a silo and transported to the dryer. Waste heat from the kiln travels through the dryer and reduces the moisture content of sawdust from 40-50% to about 4-8% moisture content. The gases are then ducted out of the dryer to a cyclone that removes any entrained particles. The dry sawdust can then be conveyed via screw auger to the kiln for combustion. The sawdust comes from local wood processing companies. The kilns fire almost exclusively on sawdust, even when flashing. Natural gas is used during start-up.

Kilns 1 and 2 process 25 and 20 brick cars per day, respectively. The car capacity is 3840 standard brick equivalents (SBE). Cherokee Sanford used to run 4224 SBE per car, but have re-configured their car capacities. An SBE is a unit measuring 2 1/4” x 7 5/8” x 3 5/8” with a fired weight of 3.81 lbs. The weight of the green brick is approximately 20% more due to the water content. The raw material contains 8 to 10% moisture. When the cut green brick leaves the extruder, the moisture content has been increased to 20%. The dryer removes the moisture to approximately 1%. The pre-heater reduces the moisture content to approximately 1/2% (ideally 0% moisture). If the moisture was not reduced to these levels, the bricks could explode inside the kiln. The maximum firing zone set points were 1960 F and 1970 F for kilns 1 and 2, respectively.

The facility consists of a clay processing/handling operation, a brick coating operation, a sawdust preparation/handling operation a three-tunnel green brick dryer, and two sawdust fired tunnel brick kilns with an associated sawdust dryer. The facility manufactures bricks with a maximum production rate of approximately 70 million bricks a year.

IV. Statement of Compliance

The DAQ has reviewed the compliance status of this facility. The facility appeared to be in compliance during the last inspection. The applicant has certified that the facility will be in compliance with all applicable requirements. The applicant has also certified that the facility will be in compliance with any applicable requirements taking effect during the term of the permit and will meet such requirements on a timely basis.

V. Summary of Emission Sources and Control Devices

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The following table identifies all emission sources and associated control devices including those for which the Initial Title V Operating Permit is being issued.

Emission Source ID No.	Emission Source Description	Pollutants Emitted	Control Device ID No.	Control Device Description	Emission Point ID No.
Grinding Room⁴					
F-SS1	Scalping Screen	Particulate matter	N/A	None	Fugitive
F-HM1	Hammer mill	Particulate matter	N/A	None	Fugitive
F-FS1	Finishing Screen #1	Particulate matter	N/A	None	Fugitive
F-FS2	Finishing Screen #2	Particulate matter	N/A	None	Fugitive
F-FS3	Finishing Screen #3	Particulate matter	N/A	None	Fugitive
F-FS4	Finishing Screen #4	Particulate matter	N/A	None	Fugitive
F-PC	Primary crusher	Particulate matter	N/A	None	Fugitive
F-CH-H1	Hopper #1	Particulate matter	N/A	None	Fugitive
F-CH-H2	Hopper #2	Particulate matter	N/A	None	Fugitive
F-CH-F1	48 inch Apron Feeder #1	Particulate matter	N/A	None	Fugitive
F-CH-F2	48 inch Apron Feeder #2	Particulate matter	N/A	None	Fugitive
F-CH-C1	30 inch Belt Conveyor	Particulate matter	N/A	None	Fugitive
F-CH-C2	30 inch Belt Conveyor	Particulate matter	N/A	None	Fugitive
F-CH-C3	30 inch Belt Conveyor	Particulate matter	N/A	None	Fugitive
F-CH-C4	24 inch Conveyor	Particulate matter	N/A	None	Fugitive
F-CH-C5	24 inch Conveyor	Particulate matter	N/A	None	Fugitive
F-CH-C6	30 inch Belt Conveyor	Particulate matter	N/A	None	Fugitive
F-CH-C7	36 inch Belt Conveyor	Particulate matter	N/A	None	Fugitive
F-CH-C8	24 inch Belt Conveyor	Particulate matter	N/A	None	Fugitive
F-CH-C9	30 inch Belt Conveyor	Particulate matter	N/A	None	Fugitive
F-CH-C10	24 inch Belt Conveyor	Particulate matter	N/A	None	Fugitive
F-CH-C11	30 inch Belt Conveyor	Particulate matter	N/A	None	Fugitive
Coating Room Equipment					
Coatings Drying/Preparation⁴					
F-CO-FH	Feed hopper ¹	Particulate matter	N/A	None	Fugitive

F-CO-C1	Feed conveyor ¹	Particulate matter	N/A	None	Fugitive
F-CO-C2	Rotary feed conveyor ¹	Particulate matter	N/A	None	Fugitive
F-CO-S	Screen ¹	Particulate matter	N/A	None	Fugitive
F-CO-C3	Screen Discharge Conveyor ¹	Particulate matter	N/A	None	Fugitive
ES-CD	Natural gas-fired coatings dryer - 0.25 million Btu/hour maximum heat input	Particulate matter	N/A	None	EP-CD
F-CO-C4	Dryer discharge conveyor ¹	Particulate matter	N/A	None	Fugitive
F-CR8	Shuttle feed conveyor ³	Particulate matter	N/A	None	Fugitive
F-CR9	Shuttle conveyor ³	Particulate matter	N/A	None	Fugitive
Texturizing Operations⁴					
ES-3	Texturizing System-Sandblast Cabinet	Particulate matter	CD-CR1	Bag filter (4084 square foot of filter area, OFT4-16 down flow-cartridge)	EP-CR1
Sawdust Preparation and Handling Area⁴					
F-SP-H F-SP-TD F-SP-L F-SP-BE	Hopper Truck Dump Loader Bucket elevator	Particulate matter	N/A	None	Fugitive
F-SP-S1 F-SP-S2 F-SP-S3	Screens	Particulate matter	N/A	None	Fugitive
ES-1	Hammer mill	Particulate matter	CD-1	Simple cyclone 27 inches in diameter (Champion Model No. 24 CW SN606732)	EP-CD1
F-SP-C1 F-SP-C2 F-SP-C3 F-SP-C4 F-SP-C5	Shuttle and conveyors	Particulate matter	N/A	None	Fugitive
F-SP-SS	Wet sawdust silos	Particulate matter	N/A	None	Fugitive

Brick Tunnel Kilns⁴

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ES-K1	Sawdust-fired tunnel brick kiln (9.0 tons/hour fired brick capacity, 32.5 million Btu/hour maximum heat input rate)	Particulate matter Sulfur dioxide Nitrogen dioxide Carbon monoxide Volatile organic compounds Hydrogen fluoride Hydrochloric acid	CD-C2	Simple cyclone 108 inches in diameter (EMTROL Model No. 76M 160)	EP-2
ES-K2	Sawdust-fired tunnel brick kiln (6.0 tons/hour fired brick capacity, 21.5 million Btu/hour maximum heat input rate)	Particulate matter Sulfur dioxide Nitrogen dioxide Carbon monoxide Volatile organic compounds Hydrogen fluoride Hydrochloric acid	CD-C2	Simple cyclone 108 inches in diameter (EMTROL Model No. 76M 160)	EP-2
ES-2	Rotary sawdust dryer (4.3 tons/hour drying capacity; heated by recycle heat from kilns 1 and 2 with natural gas used as a supplemental fuel)	Particulate matter Sulfur dioxide Nitrogen dioxide Carbon monoxide Volatile organic compounds Hydrogen fluoride Hydrochloric acid	CD-C2	Simple cyclone 108 inches in diameter (EMTROL Model No. 76M 160)	EP-2
Green Brick Dryer					
ES-K1D1 ES-K2D1	Two tunnel green brick dryers	Volatile organic compounds	N/A	None	EP-K1D1 EP-K2D1

¹Emission points identified in Air Permit 04712R17

²Emission point identity corrected in letter from applicant dated October 29, 2001

³Emission points deleted per letter from applicant dated October 29, 2001

⁴Emission points revised per letter from applicant dated March 4, 2003

VI. Emission Source-by-Source Evaluation

A. Grinding Room

1. Description

Clay from the stock piles is crushed and ground in order to achieve a uniform consistency for the material to be used in the bricks. The units that comprise the clay mining and clay processing equipment were placed in operation before 1970.

The process rates for the units that comprise the grinding room are as follows:

Emission Source ¹	Emission Source ID No. ¹	Maximum Process Rate ²
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F-SS1	Scalping Screen	75 tons/hour
F-HM1	Hammer mill	75 tons/hour
F-FS1	Finishing Screen #1	75 tons/hour
F-FS2	Finishing Screen #2	75 tons/hour
F-FS3	Finishing Screen #3	75 tons/hour
F-FS4	Finishing Screen #4	75 tons/hour
F-PC	Primary crusher	75 tons/hour
F-CH-H1 ³	Hopper #1	75 tons/hour
F-CH-H2 ³	Hopper #2	75 tons/hour
F-CH-F1 ³	48 inch Apron Feeder #1	75 tons/hour
F-CH-F2 ³	48 inch Apron Feeder #2	75 tons/hour
F-CH-C1 ³	30 inch Belt Conveyor	75 tons/hour
F-CH-C2 ³	30 inch Belt Conveyor	75 tons/hour
F-CH-C3 ³	30 inch Belt Conveyor	75 tons/hour
F-CH-C4 ³	24 inch Conveyor	75 tons/hour
F-CH-C5 ³	24 inch Conveyor	75 tons/hour
F-CH-C6 ³	30 inch Belt Conveyor	75 tons/hour
F-CH-C7 ³	36 inch Belt Conveyor	75 tons/hour
F-CH-C8 ³	24 inch Belt Conveyor	75 tons/hour
F-CH-C9 ³	30 inch Belt Conveyor	75 tons/hour
F-CH-C10 ³	24 inch Belt Conveyor	75 tons/hour
F-CH-C11 ³	30 inch Belt Conveyor	75 tons/hour

¹ Permit Application (May 13, 1996) Section B

² Process Information provided in Air Permit 0712R17 (November 7, 2000)

³ Identified as insignificant in letter from applicant dated March 4, 2003

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the emission units in the grinding room. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
visible emissions	40 percent opacity Note limits and discussion in Section VI.A.3.a	15A NCAC 2D .0521(c)

odors	Odorous emissions must be controlled - Section VII.B.1 Facility Wide Affected Emission Sources; State-enforceable only	15A NCAC 2D .1806
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3. Specific requirements and affected emission points

a. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

Statement of Basis

- i. Emission limits for visible emissions from units in the clay mining and clay processing equipment were prescribed in Air Permit No. 04712R17 (Specific Conditions and Limitations No. 4).
- ii. All units in the clay mining and processing equipment are considered fugitive emission sources. As no compliance issues have been noted, the facility has no history of violations, and the expected amount of emissions from the facility is small (potential emissions from all units total less than 5 tons per year), no monitoring, reporting or record keeping are necessary.

Regulatory Requirements

- iii. As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from the units that comprise the clay mining and clay processing equipment manufactured prior to July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if
 - (a) No six-minute period exceeds 90 percent opacity;
 - (b) No more than one six-minute period exceeds 40 percent opacity in any hour; and
 - (c) No more than four six-minute periods exceed 40 percent opacity in any 24-hour period

Monitoring/Recordkeeping

- iv. No monitoring, record keeping, or reporting is required for visible emissions from the units in the grinding room.

B. Coating Room Equipment

1. Description

Varying color sands are applied to the brick prior to firing to achieve a desired color or textured brick. A bag filter is used to collect emissions of particulate matter.

The process rates for the units that comprise the coating room equipment are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate ¹
Coatings Drying/Preparation		
F-CO-FH ³	Feed hopper ¹	1.35 tons/hour
F-CO-C1 ³	Feed conveyor ¹	1.35 tons/hour
F-CO-C2 ³	Rotary feed conveyor ¹	1.35 tons/hour
F-CO-S ³	Screen ¹	1.35 tons/hour
F-CO-C3 ³	Screen Discharge Conveyor ¹	1.35 tons/hour

ES-CD	Natural gas-fired coatings dryer - 0.25 million Btu/hour maximum heat input	1.35 tons/hour
F-CO-C4 ³	Dryer discharge conveyor ¹	1.35 tons/hour
F-CR8	Shuttle feed conveyor ³	1.35 tons/hour
F-CR9	Shuttle conveyor ³	1.35 tons/hour
Texturizing Operations		
ES-3	Texturizing System-Sandblast Cabinet	17.2 tons/hour

¹ Permit Application (May 13, 1996) Section B

² Letter Dated 10/29/01 indicated that these units have been removed

³ Identified as insignificant in letter from applicant dated March 4, 2003

Comments

- C According to permit application (May 13, 1996) Section B, the operation date for the coating room equipment was 1990.
- C As indicated in a letter from Mr. Warren Paschal (dated October 29, 2001), the shuttle feed conveyor (ID No. ES-CR8) and the shuttle conveyor (ID No. ES-CR9) which feed sand to the mill room have been removed.
- C As indicated in email correspondence from Mr. Warren Paschal (dated March 11, 2002) emission points and identification numbers are as listed in current permit (Air Permit Number 04712R17).
- The source listing was modified in a letter from Mr. Warren Paschal, dated March 4, 2003.

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the coating room equipment. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E = 4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour Note limits and discussion in Section VI.B.3.b	15A NCAC 2D .0515
sulfur dioxide	2.3 pounds per million Btu heat input Note limits and discussion in Section VI.B.3.c	15A NCAC 2D .0516(a)
visible emissions	40 percent opacity Note limits and discussion in Section VI.B.3.d	15A NCAC 2D .0521(c)
odors	Odorous emissions must be controlled - Section VII.B.1 Facility Wide Affected Emission Sources; State-enforceable only	15A NCAC 2D .1806

Other regulations considered for emissions from the coating room equipment:

- C 15A NCAC 25 .0524: New Source Performance Standards. According to the applicant, the rotary dryer was constructed prior to 1977 and moved to its current location in 1985. The dryer was in operation prior to effective date for requirements of 40 CFR 60 Subpart UUU (1986).

3. Specific requirements and affected emission points

a. **15A NCAC 2D .0515: Particulate Emissions from Miscellaneous Industrial Processes**

Statement of Basis

- i. The method for calculating the emission limit for particulate matter from the coating room equipment was prescribed in Air Permit No. 04712R17 (Specific Conditions and Limitations No. 2). A bag filter collects particulate matter from the gas stream from the texturizing operation before being exhausted to the atmosphere.
- ii. In the inspectors report of September 24, 2001, in item 5 (Specific Conditions and Limitations) [A6], it was indicated that the bag filters have been changed at least quarterly. The inspector stated "The facility has decided that it is better to change the bag filters than to clean them. The iron oxide and other fines clog the filter media." A magnehelic gauge is used to measure pressure drop across the bag filters. According to the inspector, "The magnehelic setpoints for the pressure range was between zero and four inches (2"-3" during the 2000 inspection)."
- iii. Stack testing is not required to ensure compliance with this regulation. However the test method condition will be put in the permit in the event that DAQ or EPA finds that due to improper operation, violations, etc., source testing is required. Testing requirements are specified in 2D .0501(c).
- iv. No control devices are in place for the coatings dryer (**ID No. ES-CD**). Minimal emissions of particulate matter are expected. Therefore, no monitoring, reporting, or record keeping will be necessary for particulate emissions from this unit.

Regulatory Requirements

- v. Emissions of particulate matter from the units that comprise the coating room (**ID Nos. ES-3 and ES-CD**) that are discharged into the atmosphere shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)].

$$E = 4.10 \times P^{0.67} \quad \text{as process weight rate is less than 30 tons per hour}$$

Where E = allowable emission rate in pounds per hour calculated to three significant figures

P = process weight rate in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Monitoring/Recordkeeping

- vi. Particulate matter emissions from the texturizing system-sandblast cabinet (**ID Nos. ES-3**) shall be controlled by the bag filter (**ID No. CD-CR1**) which has 4,084 square feet of surface area. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
 - (a) a quarterly internal inspection of the bag filters for deterioration and damage, and
 - (b) a weekly external visual inspection of the system duct work, and material collection unit for deterioration, damage, and leaks.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the bag filter and

- duct work are not visually inspected.
- vii. The results of inspection and maintenance shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log shall record the following:
- (a) the date and time of each recorded action;
 - (b) the results of each inspection;
 - (c) the results of any maintenance performed on the bag filter; and
 - (d) any variance from manufacturer's recommendations, if any, and corrections made.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.
- viii. To ensure compliance and the effective operation of the bag filter (**ID No. CD-CR1**), the Permittee shall monitor and record, once during each shift, the pressure drop across the inlet and outlet of the bag filter. The pressure drop shall be measured in inches of water column (in. w.c.) or pounds per square inch, using pressure transducers, differential pressure gauges, manometers, or other methods or alternative instrumentation as appropriate. The pressure drop shall be recorded in a log (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, monitoring device will be calibrated, operated, and maintained using procedures that take into account manufacturer's specifications. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.
- ix. The Permittee shall establish a "normal range" for pressure drops across the inlet and outlet of the bag filter (**ID No. CD-CR1**) in the first 30 days following the effective date of the permit. If the pressure drop across the inlet and outlet of the bag filter are observed to be outside the normal range, the Permittee shall inspect the bag filter for leaks or malfunctions and repair or replace filter media as necessary in accordance to manufacturer's inspection and maintenance recommendations. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the inspections and repairs are not performed.
- x. No monitoring, reporting, or record keeping are required for the coatings dryer (**ID No. ES-CD**).

Reporting

- xi. The Permittee shall submit the results of any maintenance performed on the bag filter (**ID No. CD-CR1**) within 30 days of a written request by the DAQ.
- xii. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

c. 15A NCAC 2D .0516: Sulfur Dioxide Emissions from Combustion Sources

Statement of Basis

- i. Requirements of this regulation were not prescribed in Air Permit No. 04712R17 for the coatings dryer (**ID No. ES-CD**).
- ii. The drying process utilizes natural gas as fuel. The combustion of natural gas results in minimal emissions of sulfur dioxide.

Regulatory Requirements

- iii. Emissions of sulfur dioxide from the coatings dryer (**ID No. ES-CR6**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516(a)]. Emissions of sulfur dioxide from the combustion of natural gas or fuel oil as discharged from the following emission points shall not exceed the following limitations:

<u>Source</u>	<u>Pollutant</u>	<u>Emission Limit</u>	<u>Maximum Firing Rate</u>	<u>Allowable Emission Rate</u>
Rotary Coatings Dryer (ID No. ES-CD)	Sulfur dioxide	2.3 lbs/mmBtu	.25mm Btu/hour	0.58 lbs/hour

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Monitoring/Recordkeeping/Reporting

iv. No monitoring, record keeping, or reporting is required for sulfur dioxide emissions from the firing of natural gas or propane in the coatings dryer (ID No. ES-CD).

d. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

Statement of Basis

- i. Emission limits for visible emissions from the units that comprise the coating room equipment were prescribed in Air Permit No. 04712R17 (Specific Conditions and Limitations No. 4).
- ii. A bag filter is utilized to control emissions of particulate matter (the pollutant that makes up the visible emissions) from the Texturizing System-Sandblast Cabinet (ID No. ES-3). To ensure proper operation of the bag filter and in turn compliance with this requirement, monthly observations for visible emissions are necessary.
- iii. As the coatings dryer (ID No. ES-CD) utilizes natural gas and no issues of noncompliance have been noted, no monitoring, reporting, or record keeping is necessary.

Regulatory Requirements

- iv. As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from the units that comprise the coating room equipment manufactured prior to July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if
 - (a) No six-minute period exceeds 90 percent opacity;
 - (b) No more than one six-minute period exceeds 40 percent opacity in any hour; and
 - (c) No more than four six-minute periods exceed 40 percent opacity in any 24-hour period

Monitoring/Recordkeeping

- iv. To ensure compliance, once a month the Permittee shall observe the units that comprise the coating room equipment, for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from the Texturizing System-Sandblast Cabinet (ID No. EP-CR1) are observed to be above normal, the Permittee shall either:
 - (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or
 - (b) demonstrate that the visible emissions from the emission point connected to Texturizing System-Sandblast Cabinet (ID No. EP-CR1), in accordance with 15A NCAC 2D .0501(c)(8), are below 40 percent opacity.
 If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.
- v. The results of the monitoring for visible emissions shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - (c) the results of any corrective actions performed.
 The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.
- vi. No monitoring, record keeping, or reporting is required for visible emissions from the coatings dryer (ID No. ES-CD).

Reporting

- vi. The Permittee shall submit a summary report of monitoring and record keeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

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C. Sawdust Preparation and Handling Area (ID No. ES-SH)

1. Description

Sawdust is received, stored, and sized prior to drying. Dried sawdust is used to fire the brick kilns.

The process rates for the units that comprise the sawdust preparation and handling area are as follows:

Emission Source ²	Emission Source ID No.	Maximum Process Rate ¹
F-SP-H ³ F-SP-TD ³ F-SP-L ³ F-SP-BE ³	Hopper Truck Dump Loader Bucket elevator	4.3 tons per hour
F-SP-S1 ³ F-SP-S2 ³ F-SP-S3 ³	Screens	4.3 tons per hour
ES-1	Hammer mill	4.3 tons per hour
F-SP-C1 ³ F-SP-C2 ³ F-SP-C3 ³ F-SP-C4 ³ F-SP-C5 ³	Shuttle and conveyors	4.3 tons per hour
F-SP-SS ³	Wet sawdust silos	4.3 tons per hour

¹ Permit Application (May 13, 1996) Section B

² Emission points derived from flow diagram (Figure 4) in Appendix B of Permit Application (May 13, 1996)

³ Identified as insignificant in letter from applicant dated March 4, 2003

Comments

- C The sawdust preparation and handling equipment were not described in detail in application. Information was derived from diagram in appendix B. Hoppers, scalpers, screens, stockpile, conveyors and shuttle are sources of fugitive emissions.

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the sawdust preparation and handling area. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation

particulate matter	$E = 4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour Note limits and discussion in Section VI.C.3.a	15A NCAC 2D .0515
visible emissions	20 percent opacity Note limits and discussion in Section VI.C.3.b	15A NCAC 2D .0521(d)
odors	Odorous emissions must be controlled - Section VII.B.1 Facility Wide Affected Emission Sources; State-enforceable only	15A NCAC 2D .1806

3. Specific requirements and affected emission points

a. **15A NCAC 2D .0515: Particulate Emissions from Miscellaneous Industrial Processes**

Statement of Basis

- i. The method for calculating the emission limit for particulate matter from the hammer mill (**ID No. ES-1**) was prescribed in Air Permit No. 04712R17 (Specific Conditions and Limitations No. 2). A simple cyclone collects particulate matter from the gas stream from the hammer mill before being exhausted to the atmosphere.
- ii. No issues of noncompliance have been noted. Monthly inspections of cyclone are sufficient to determine continuous compliance.
- iii. Stack testing is not required to ensure compliance with this regulation. However the test method condition will be put in the permit in the event that DAQ or EPA finds that due to improper operation, violations, etc., source testing is required. Testing requirements are specified in 2D .0501(c).

Regulatory Requirements

- iv. Emissions of particulate matter from the units that comprise the sawdust preparation and handling area that are discharged into the atmosphere shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)].

$$E = 4.10 \times P^{0.67} \quad \text{as process weight rate is less than 30 tons per hour}$$

Where E = allowable emission rate in pounds per hour calculated to three significant figures
 P = process weight rate in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

In no case shall the following emission limitations be exceeded:

<u>Source</u>	<u>Pollutant</u>	<u>Process Weight Rate</u>	<u>Emission Limit</u>	<u>Potential Emissions</u>
Hammer mill (ID No. ES-1)	Particulate matter	4.3 tons/hr	10.9 lbs/hr	3.0 lbs/hr

Monitoring/Recordkeeping

- v. Particulate matter emissions from the hammer mill (**ID No. ES-1**) shall be controlled by the simple cyclone (**ID No. CD-1**) which is 27 inches in diameter. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:

- (a) an annual external inspection of the cyclone's structural integrity; and
- (b) a monthly visual inspection of the system duct work, and material collection unit for leaks.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the cyclone and duct work are not inspected and maintained.

- vi. The results of inspection and maintenance shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each inspection;
 - (c) the results of any maintenance performed on the cyclone and duct work; and
 - (d) any variance from manufacturer's recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

Reporting

- vii. The Permittee shall submit the results of any maintenance performed on the cyclone (**ID No. CD-1**) within 30 days of a written request by the DAQ.
- viii. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

Statement of Basis

- i. Emission limits for visible emissions from the units that comprise the sawdust preparation and handling equipment were prescribed in Air Permit No. 04712R17 (Specific Conditions and Limitations No. 4).
- ii. Most units in the sawdust preparation and handling equipment are considered fugitive emission sources (The exception being the hammer mill. Emissions from which are controlled by a simple cyclone). As no compliance issues have been noted, the facility has no history of violations, and the expected amount of emissions from the emission units is small, only monthly observations for visible emissions is necessary to ensure compliance.

Regulatory Requirements

- iii. As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from the units that comprise the sawdust preparation and handling equipment manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if
 - (a) No six-minute period exceeds 87 percent opacity;
 - (b) No more than one six-minute period exceeds 20 percent opacity in any hour; and
 - (c) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period
- iv. Visible emissions from the emission points that comprise the sawdust preparation and handling equipment shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point ID No.</u>	<u>Pollutant</u>	<u>Opacity Limit</u>
Hammer mill (ID No. ES-1)	EP-CD1	Visible emissions	20 percent

Monitoring/Recordkeeping

- v. To ensure compliance, once a month the Permittee shall observe the emission point for the

hammer mill (**ID No. EP-CD1**) for any visible emissions above normal. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of the permit. If visible emissions from the emission point for the hammer mill (**ID No. EP-CD1**) are observed to be above normal, the Permittee shall either:

- (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or
- (b) demonstrate that the visible emissions from the emission point for the hammer mill (**ID No. EP-CD1**), in accordance with 15A NCAC 2D .0501(c)(8), are below 20 % opacity.

If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

- vi. The results of the monitoring for visible emissions shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request.

The log shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
- (c) the results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

Reporting

- vii. The Permittee shall submit a summary report of monitoring and record keeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

D. Brick Tunnel Kilns

1. Description

The kilns are used to fire brick to a hardened state.

The process rates for the kiln are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate ¹
Sawdust-fired brick tunnel kiln	ES-K1	9.0 tons/hour maximum capacity 32.5 million Btu/hour maximum heat input rate [natural gas/propane used as backup]
Sawdust-fired brick tunnel kiln	ES-K2	6.0 tons/hour maximum capacity 21.5 million Btu/hour maximum heat input rate [natural gas/propane used as backup]
Rotary sawdust dryer	ES-2	4.3 tons/hour

¹ Permit Application (April 29, 1996) Section B

Comments

- Units identified as insignificant in Section E of the permit application submitted on April 29, 1996 (i.e., kiln flashers and preheaters and green brick dryer preheaters) are considered to be part of the brick kilns and are not listed separately.

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the brick tunnel kilns. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E = 4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour Note limits and discussion in Section VI.D.3.a	15A NCAC 2D .0515
sulfur dioxide	2.3 pounds per million Btu heat input Note limits and discussion in Section VI.D.3.b	15A NCAC 2D .0516(a)
visible emissions	20 percent opacity Note limits and discussion in Section VI.D.3.c	15A NCAC 2D .0521(d)
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. See Section VII.B.1. State-enforceable only.	15A NCAC 2D .1100
odors	Odorous emissions must be controlled - Section VII.B.2 Facility Wide Affected Emission Sources; State-enforceable only	15A NCAC 2D .1806
toxic air pollutants	Toxic air pollutant emissions shall not exceed the levels listed in 2Q .0711 unless ambient standards are not exceeded; See Section VII.B.3 Facility Wide Affected Emission Sources; State-enforceable only.	15A NCAC 2Q .0711

3. Specific requirements and affected emission points

a. **15A NCAC 2D .0515: Particulate Emissions from Miscellaneous Industrial Processes**

Statement of Basis

- The methods for calculating the emission limits for particulate matter from the two sawdust-fired brick tunnel kilns and the rotary sawdust dryer were prescribed in Air Permit No. 04712R17 (Specific Conditions and Limitations No. 2). A single simple cyclone is used to remove particulate matter from the gas streams of all the units before being exhausted to the atmosphere.
- Stack testing is not required to ensure compliance with this regulation. However the test method condition will be put in the permit in the event that DAQ or EPA finds that due to improper operation, violations, etc., source testing is required. Testing requirements are specified in 2D .0501(c).
- No issues of noncompliance have been indicated. As the kilns utilize sawdust as fuel, the

permittee should perform monthly inspections of ductwork and material collection systems to ensure continuous compliance. Semiannual inspection of the combustion system is also appropriate. DRAFT

Regulatory Requirements

- iv. Emissions of particulate matter from the sawdust fired brick tunnel kilns and the rotary sawdust dryer that are discharged into the atmosphere shall not exceed an allowable emission rate as calculated by the following equations: [15A NCAC 2D .0515(a)].

$$E = 4.10 \times P^{0.67} \quad \text{as process weight rate is less than 30 tons per hour}$$

Where E = allowable emission rate in pounds per hour calculated to three significant figures

P = process weight rate in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

In no case shall the following emission limitations be exceeded:

<u>Source</u>	<u>Pollutant</u>	<u>Process Weight Rate</u>		<u>Emission Limit</u>	<u>Potential Emissions</u>
Kiln 1 (ID No. ES-K1)	Particulate matter	13.0 tons/hr	22.9 lbs/hr	11.7 lbs/hr	
Kiln 2 (ID No. ES-K2)	Particulate matter	10.2 tons/hr	19.4 lbs/hr	7.8 lbs/hr	
Rotary sawdust dryer (ID No. ES-2)	Particulate matter	4.3 tons/hr	10.9 lbs/hr		Not provided

Monitoring/Recordkeeping

- v. Particulate matter emissions from the sawdust fired brick tunnel kiln 1 (ID No. ES-K1), sawdust fired brick tunnel kiln 2 (ID No. ES-K2), and the rotary sawdust dryer (ID No. ES-2) shall be controlled by the simple cyclone (ID No. CD-C2) which is 108 inches in diameter. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer’s inspection and maintenance recommendations, or if there is no manufacturer’s inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
 - (a) an annual inspection of the cyclone's structural integrity;
 - (b) a monthly external visual inspection of the system duct work, and material collection unit for leaks, holes, or disrepair; and
 - (c) every six (6) months, perform a visual inspection of each brick tunnel kiln’s fuel combustion system

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the cyclone and duct work are not inspected and maintained.

- vi. The results of inspection and maintenance shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each inspection;
 - (c) the results of any maintenance performed on the cyclone and duct work; and
 - (d) any variance from manufacturer’s recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

Reporting

- vii. The Permittee shall submit the results of any maintenance performed on the cyclone (ID No. CD-C2) within 30 days of a written request by the DAQ.
- viii. The Permittee shall submit a summary report of monitoring and record keeping activities

postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. DRAFT

b. 15A NCAC 2D .0516: Sulfur Dioxide Emissions from Combustion Sources

Statement of Basis

- i. The existing permit includes a sulfur dioxide emission limit of 2.3 lb per million Btu heat input prescribed in the existing permit (Air Permit No. 04712R17, Specific Conditions and Limitations No. 3).
- ii. Sawdust is the principle fuel utilized in the kilns, however, the kilns also burn propane and natural gas as backup fuel. The combustion of sawdust, natural gas, or propane results in minimal emissions of sulfur dioxide
- iii. Heat from the kilns is utilized to dry the sawdust fuel in the rotary drum sizing and drying system.

Regulatory Requirements

- i. Emissions of sulfur dioxide from the sawdust fired brick tunnel kilns shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516(a)]. Emissions of sulfur dioxide from the combustion of sawdust, natural gas, or fuel oil as discharged from the following emission points shall not exceed the following limitations:

<u>Source</u>	<u>Pollutant</u>	<u>Emission Limit</u>	<u>Maximum Firing Rate</u>	<u>Allowable Emission Rate</u>
Kiln 1	Sulfur dioxide	2.3 lbs/mmBtu	32.5 mmBtu/hour	74.8 lbs/hour
Kiln 2	Sulfur dioxide	2.3 lbs/mmBtu	21.5 mmBtu/hour	49.5 lbs/hour

Monitoring/Recordkeeping/Reporting

- v. No monitoring, record keeping, or reporting is required for sulfur dioxide emissions from the firing of sawdust, natural gas or propane in the sawdust fired brick tunnel kilns (**ID Nos. ES-K1 and ES-K2**).

c. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

Statement of Basis

- i. Emission limits for visible emissions from the sawdust fired brick tunnel kilns and the rotary sawdust dryer were prescribed in Air Permit No. 04712R17 (Specific Conditions and Limitations No. 4).
- ii. As the kilns are wood combustion sources, daily observations of emission units are necessary to ensure compliance.

Regulatory Requirements

- iii. As required by 15A NCAC 2D .0521 "Control of Visible Emissions," visible emissions from the sawdust fired brick tunnel kilns, manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if:
 - (a) No six-minute period exceeds 87 percent opacity;
 - (b) No more than one six-minute period exceeds 20 percent opacity in any hour; and
 - (c) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period
- iv. Visible emissions from the sawdust fired brick tunnel kilns and the rotary sawdust dryer shall not exceed the following limitations:

Source	Emission Point ID No.	Pollutant	Opacity Limit
Kiln 1 (ID No. ES-K1)	EP-2	Visible emissions	20%
Kiln 2 (ID No. ES-K2)	EP-2	Visible emissions	20%
Rotary sawdust dryer (ID No. ES-2)			

DRAFT

Monitoring/Recordkeeping

- v. To ensure compliance, on a daily basis, the Permittee shall observe the emission point for the sawdust fired brick tunnel kilns and the rotary sawdust dryer (ID No. EP-2) for any visible emissions above normal. The Permittee shall establish “normal” for visible emissions from the sawdust fired brick tunnel kilns and the rotary drum sizing and drying system in the first 30 days following the effective date of the permit. If visible emissions from these emission points are observed to be above normal, the Permittee shall either:
 - (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or
 - (b) demonstrate that the visible emissions from the emission point for the kilns and rotary sawdust dryer (ID No EP-2) in accordance with 15A NCAC 2D .0501(c)(8) are below 20% opacity.
 If the demonstration in (b), above, cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.
- vi. The results of visible emissions evaluations, discussed above, shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative of DAQ upon request. The log shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - (c) the results of any corrective actions performed.
 The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

Reporting

- vii. The Permittee shall submit a summary report of the observations by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

E. Green Brick Dryer

1. Description

A three tunnel green brick dryer is used at the facility to provide the initial curing of the green clay bricks. The dryer tunnels are heated by the cooling exhaust of the kilns.

The process rates for the three tunnel green brick dryer is as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate ¹
Two tunnel green brick dryers ²	ES-K1D1 ES-K2D1	15.2 tons/hour

¹ Permit Application (May 13, 1996) Section B

² Identified as insignificant in letter from applicant dated March 4, 2003

VII. Facility-wide affected emission sources

The following table provides a summary of limits and standards applicable facility wide:

Regulated Pollutant	Limits/Standards	Applicable Regulation
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. State-enforceable only.	15A NCAC 2D .1100
odors	odorous emissions must be controlled; State enforceable only	15A NCAC 2D .1806
toxic air pollutants	Toxic air pollutant emissions shall not exceed the levels listed in 2Q .0711 unless ambient standards are not exceeded; Facility Wide Affected Emission Sources; State-enforceable only.	15A NCAC 2Q .0711

B. Specific requirements and affected emission points

1. 15 A NCAC 2D .1100: Control of Toxic Air Pollutants (State only requirement)

Pursuant to 15A NCAC 2D .1100 "Control of Toxic Air Pollutants," and in accordance with the approved application for an air toxic compliance demonstration, the following permit limits shall not be exceeded:

<u>Toxic Air Pollutant</u>	<u>Emission Rate</u>
Arsenic	4.3 pounds per year
Benzene	548 pounds per year
Cadmium	103 pounds per year
Chromium VI	1.6 pounds per year
Fluoride	66.2 pounds per day and 12.9 pounds per hour
Hydrogen chloride	36 pounds per hour
Hydrogen fluoride	124 pounds per day and 12.9 pounds per hour
Nickel, soluble compounds	2.5 pounds per day

- a. In order to demonstrate compliance with the above limits the following restrictions shall apply:
 - i. the tunnel kilns combined feed rate shall not exceed 34,400 pounds per hour, and
 - ii. the sawdust dryer stack (ID No. ES-2) shall be 66 feet in height.
- b. For compliance purposes, within 30 days after each calendar year quarter, regardless of the actual emissions, the following shall be reported to the Regional Supervisor, DAQ:
 - i. the kiln average hourly feed rates during each day of the reporting quarter.

2. 15A NCAC 2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS (State only requirement)

- a. The Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

3. 15A NCAC 2Q .0711: PERMIT REQUIREMENTS FOR TOXIC AIR POLLUTANTS (State only requirements)

- a. Pursuant to 15A NCAC 2Q .0711 “Emission Rates Requiring a Permit,” for each of the below listed toxic air pollutants (TAPs), the Permittee has made a demonstration that facility-wide actual emissions do not exceed the Toxic Permit Emission Rates (TPERs) listed in 15A NCAC 2Q .0711. The facility shall be operated and maintained in such a manner that emissions of any listed TAPs from the facility, including fugitive emissions, will not exceed TPERs listed in 15A NCAC 2Q .0711.
- A permit to emit any of the below listed TAPs shall be required for this facility if actual emissions from all sources will become greater than the corresponding TPERs.
 - PRIOR to exceeding any of these listed TPERs, the Permittee shall be responsible for obtaining a permit to emit TAPs and for demonstrating compliance with the requirements of 15A NCAC 2D.1100 "Control of Toxic Air Pollutants".
 - In accordance with the approved application, the Permittee shall maintain records of operational information demonstrating that the TAP emissions do not exceed the TPERs as listed below:

Pollutant (CAS Number)	TPERs Limitations			
	Carcinogens (lb/yr)	Chronic Toxicants (lb/day)	Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
beryllium (7440-41-7)	0.28			
bromine (7726-95-6)				0.052
cresol (1319-77-3)			0.56	
ethyl mercaptan (75-08-1)			0.025	
n-hexane (110-54-3)		23		
hexane isomers except n – hexane				92
manganese and compounds		0.63		
methyl isobutyl ketone (108-10-1)		52		7.6
methyl mercaptan (74-93-1)			0.013	
nickel metal (7440-02-0)		0.13		
nitrobenzene (98-95-3)		1.3	0.13	
pentachloro- phenol (87-86-5)		0.063	0.0064	

Pollutant (CAS Number)	TPERs Limitations			
	Carcinogens (lb/yr)	Chronic Toxicants (lb/day)	Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
polychlorinated biphenyls (1336-36-3)	5.6			
styrene (100-42-5)			2.7	
trichloroethylene (79-01-6)	4000			
zinc chromate (13530-65-9)	0.0056			

VIII. MACT Applicability and Requirements

Based on a review of the facility's current operations and emission sources, the facility will not likely be subject to the MACT for Brick and Structural Clay Products Manufacturing, Subpart JJJJJ. It was proposed on July 22, 2002 and is scheduled for promulgation in the spring of 2003.

IX. Permit Shield (including non-applicable requirements)

In accordance with 2Q .0512 the permit will contain a provision stating that compliance with the terms, conditions, and limitations of the Title V permit shall be deemed in compliance with applicable requirements specifically identified in the permit, as of the date of permit issuance. If the permit does not expressly state that a permit shield exists then it shall be presumed not to provide such a shield.

X. General Conditions

The "General Conditions" section of the Title V Operating Permits lists additional applicable rule requirements that the permittee must adhere to, as with any other permit condition. These requirements in general are common to all Title V facilities. The general conditions include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation, property rights, submission of documents, inspections and entry procedures, reopen for cause, and severability.

XI. Insignificant Activities

The insignificant activities listed in the application have been reviewed and verified. Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement.

None were identified in application or in Air Permit 04712R17. The applicant provided the following list in a letter of March 4, 2003.

4 Hoppers	2 Feeders	Truck Dump
20 Conveyors	4 Screens	Loader
		Bucket elevator
		Storage Silo
		7 fuel and oil storage tanks (capacity for each is less

XII. Public Notice

Pursuant to 15A NCAC 2Q .0521, a notice of the draft Title V Operating Permit shall be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30 day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA.

XIII. Recommendations

The initial Title V application for Cherokee Brick Company - Lee County, North Carolina Facility has been reviewed by the DAQ to determine compliance with all procedures and requirements under 15A NCAC 2Q .0500 and 40 CFR Part 70. The DAQ has made a preliminary determination that the facility is complying or will achieve compliance as specified in the draft permit with all applicable requirements. Therefore, the DAQ is proposing to issue the Title V Operating Permit upon completion of the public comment period and the EPA review.