

TITLE V SIGNIFICANT MODIFICATION (WITHOUT CONSTRUCTION) APPLICATION REVIEW

Facility Name: **Thermal Ceramics – Augusta Facility**

City: Augusta

County: Richmond

AIRS #: 04-13-245-00005

Application #: TV-16227

Date SIP Application Received: N/A

Date Title V Application Received: April 29, 2005

Permit No: 3255-245-0005-V-01-3

Program	Review Engineers	Review Managers
SSPP	S. Ganapathy	Richard McDonald
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TOXICS	n/a	N/a

Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft/proposed operating permit amendment. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1) and 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the proposed permit and is presented in the same general order as the permit. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Existing Permits

Table 1 below lists the current Title V permit, and all administrative amendments and minor and significant modifications and 502(b)(10) changes. Comments are listed in Table 2 below.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
3255-245-0005-V-01-0	October 29, 2003	✓	
3255-245-0005-V-01-1	September 14, 2004	✓	
3255-245-0005-V-01-2 (proposed) TV-16177	June 2005	✓	

Table 2: Comments on Specific Permits

Permit Number	Comments
3255-245-0005-V-01-0	Initial Title V Permit for the Augusta Facility
3255-245-0005-V-01-1	502(b)(10) change for replacement of baghouse no. 6353 for control of Grinder #4 emissions and removal of Grinder#3 from the facility.
3255-245-0005-V-01-2	Proposed Minor permit amendment without construction for updating monitoring condition for the wet ESP (ESP1) when it is operated without the air atomizing nozzle.

B. Regulatory Status

1. PSD/NSR/RACT

The Thermal Ceramics plant was originally constructed prior to the implementation of the PSD regulations and is considered to be an existing major source, with potential emissions of sulfur dioxide, particulate matter and PM-10 greater than 250 tons per year. This facility is not one of the 28 listed major source categories named in the PSD regulations, so the major source threshold remains 250 tons, not 100 tons. There have been no major modifications at this facility, which have triggered PSD. However, the permit includes PSD avoidance conditions. Since this plant is not in the non-attainment area, Non-Attainment New Source Review regulations are inapplicable. Changes proposed in the current application do not involve any new construction or modification of any existing source, so PSD is inapplicable.

2. Title V Major Source Status by Pollutant

Table 3: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility’s Title V status for the pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	Yes	✓		
PM ₁₀	Yes	✓		
SO ₂	Yes	✓		
VOC	Yes			✓
NO _x	Yes			✓
CO	Yes			✓
TRS	n/a			
H ₂ S	n/a			
Individual HAP	Yes			✓
Total HAPs	Yes			✓

II. Proposed Modification

A. Description of Modification

Thermal Ceramics requested that the periodic kilns PK1, PK2, PK3 and PK6, and the spun fiber ovens SF01 and SF02 be exempt from the opacity monitoring requirements in Condition 5.2.5 since these oven are operated infrequently and fire clean natural gas. The percent opacity of visible emission from these ovens is always zero.

B. Emissions Change

No change in emission of PM or any other pollutant is expected due to proposed monitoring changes.

C. PSD/NSR Applicability

This application is a request to alter monitoring requirements. No new emission units are being added and no existing emission unit is being modified. Hence, PSD is not applicable.

III. Facility Wide Requirements

None Applicable due to the proposed amendment.

IV. Regulated Equipment Requirements

A. Brief Process Description

Daily opacity monitoring of the periodic kilns and spun fiber ovens that burn natural gas is not needed since the percent opacity of visible emissions from these sources is inherently at zero.

B. Equipment List for the Process

There is no new equipment or control device in this permit amendment.

C. Equipment & Rule Applicability

- Emission and Operating Caps – No change due to the proposed amendment.
- Applicable Rules and Regulations -

Rules and Regulations Assessment: There is no change in the applicable rules and regulations.

Emission and Operating Standards: There is no change in the applicable emission and operating standards.

D. Compliance Status

The facility operates in compliance with all applicable rules and regulations.

E. Operational Flexibility

None applicable.

F. Permit Conditions

No change to permit conditions in Section 3 of the facility's existing Title V Permit. The emission unit in table in Section 3.1 of the permit is amended for the four periodic kilns (Source ID Nos.: PK1, PK2, PK3 and PK6) and the two Spun Fiber Line 1 and Line 2 ovens (Source ID Nos.: SF01 and SF02) to remove Condition 5.2.5 since these sources are now exempt from the opacity monitoring requirement of this condition.

V. Testing Requirements (with Associated Record Keeping and Reporting)

Individual Equipment: No testing is required in this permit amendment.

B. Equipment Groups (all subject to the same test requirements): Not applicable.

VI. Monitoring Requirements (with Associated Record Keeping and Reporting)

Individual Equipment: Condition 5.2.5 is amended to exempt the periodic kilns PK1, PK2, PK3 and PK6 and the spun fiber ovens SF01 and SF02 from the opacity monitoring requirements since these source burn clean natural gas and propane or fuel oil and have no visible emissions. The periodic kilns and the spun fiber ovens are subject to Georgia Rule (b) for visible emissions. Rule (b) limits visible emissions from these sources to 40 percent opacity. The periodic kilns and ovens are subject to Rule (e) for process PM emissions. The periodic kilns and the spun fiber oven fire fuel whose combustion releases negligible visible and PM emissions with fuel oil or propane as a backup. The percent opacity from the fuel combustion is inherently at zero and fuel combustion is expected to be the primary source of emissions from these units. Hence the opacity of visible emissions from the periodic kiln and spun fiber oven are expected to comply with the 40% opacity limit all the time due to the inherent low level of emissions.

The periodic kilns PK1, PK2 and PK3 are rated at 5.4 MMBtu/hr and can process 8.84 tph of firebricks. The allowable PM emission rate for these kilns applying Rule (e) gives an allowable PM rate of 17.66 lb/hour. This kiln can burn natural gas or No. 4 fuel oil. For estimating PM emissions from these ovens the kilns are assumed to burn No. 4 fuel oil. The filterable PM emission factor from AP-42 Table 1.3.-1 for boilers rated less than 100 MMBtu/hr burning No. 4 fuel oil is 7 lb/1000 gal. The maximum annual consumption of fuel oil in these kilns is 220,139 gallons, resulting in a PM rate of 0.176 lb/hour. Thus the PM emission from Kilns PK1, PK2 and PK3 is only a 1% of Rule (e) allowable.

Periodic Kiln PK6 has a process rate of 4.42 tph and is rated at 1.46 MMBtu/hr. The Rule (e) allowable for PK6 is 11.10 lb/hour. The maximum annual consumption of No. 4 fuel oil in this kiln is 55,440 gallons. Using the PM emission factor of 7 lb/1000 gal from AP-42 Table 1.3.-1, the PM rate from this kiln is 0.044 lb/hr which is 0.4% of Rule (e) allowable.

The Spun Fiber Line Ovens (SFO1 and SFO2) have a process rate of 1.2 tons/hour and are rated at 10.2 MMBtu/hr. The Rule (e) allowable for these ovens is 1.36 lb/hour. These ovens burn natural gas or propane and consume 89.352 MMcf/year of gas. The AP-42 emission factor for PM emission from natural gas combustion is 7.6 lb/MMcf from Table 1.4-2. Thus, the PM rate from each oven is 0.077 lb/hour, which is 5.6% of Rule (e) allowable.

Thus, the PM emissions from the four periodic kilns and two spun fiber line ovens are expected to inherently comply with Rule (e) allowable for PM. As a result, the periodic kilns and the spun fiber ovens are exempted from the opacity monitoring requirement in condition 5.2.5.

B. Equipment Groups (all subject to the same monitoring requirements): Not applicable.

VI. Other Record Keeping and Reporting Requirements

None.

VII. Specific Requirements

Discuss any of the following specific requirements as they apply to the modification.

A. Operational Flexibility

Not applicable.

B. Alternative Requirements

None applicable.

C. Insignificant Activities

Not applicable.

D. Temporary Sources

This amendment does not involve operation of any temporary sources.

E. Short-Term Activities

No short term activities are included in the modification.

F. Compliance Schedule/Progress Reports

Not applicable.

G. Emissions Trading

Not applicable.

H. Acid Rain Requirements

Not applicable.

I. Prevention of Accidental Releases

This modification does not change the source's applicability to this requirement.

J. Stratospheric Ozone Protection Requirements

This modification does not change the source's applicability to Title VI

K. Pollution Prevention

Not applicable.

L. Specific Conditions

Not applicable.

Addendum to Narrative

The public notice was issued in the August 4, 2005 issue of “Augusta Chronicle”. The 30 day public comment period ended on September 6, 2005. No comments were received during the public comment period. Hence, no changes to the draft permit amendment were incorporated into the final permit amendment.