Facility Name: **Earthgrains Baking Companies, Inc. – Atlanta Bakery**
City: Decatur
County: DeKalb
AIRS #: 04-13-089-00239

Application #: TV-18838
Date Application Received: March 16, 2009
Permit No: 2051-089-0239-V-03-0

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Introduction

This narrative is being provided to assist the reader in understanding the content of the attached draft Part 70 operating permit. Complex issues and unusual items are explained here in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Georgia Air Quality Act, O.C.G.A § 12-9-1, et seq. and (2) Georgia Rules for Air Quality Control, Chapter 391-3-1, and (3) Title V of the Clean Air Act. Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control incorporates requirements of Part 70 of Title 40 of the Code of Federal Regulations promulgated pursuant to the Federal Clean Air Act. The primary purpose of this permit is to consolidate and identify existing state and federal air requirements applicable to **Earthgrains Baking Companies, Inc. – Atlanta Bakery** and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. It initially describes the facility receiving the permit, the applicable requirements and their significance, and the methods for determining compliance with those applicable requirements. This narrative is intended as an adjunct for the reviewer and to provide information only. It has no legal standing. Any revisions made to the permit in response to comments received during the public participation and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Facility Identification

1. Facility Name:

Earthgrains Baking Companies, Inc. – Atlanta Bakery

2. Parent/Holding Company Name

Sara Lee Corporation

3. Previous and/or Other Name(s)

Colonial Baking Company

4. Facility Location

3310 Panthersville Road
Decatur, Georgia 30034

5. Attainment, Non-attainment Area Location, or Contributing Area

The facility is located in DeKalb County, which is a non-attainment area.

B. Site Determination

There are no other facilities which could possibly be contiguous or adjacent and under common control.

C. Existing Permits

Table 1 below lists all current Title V permits, all amendments, 502(b)(10) changes, and off-permit changes, issued to the facility, based on a comparative review of form A.6, Current Permits, of the Title V application and the "Permit" file(s) on the facility found in the Air Branch office.

Table 1: List of Current Permits, Amendments, and Off-Permit Changes

Permit Number and/or Off-Permit Change	Date of Issuance/ Effectiveness	Purpose of Issuance
2051-089-0239-V-02-0	September 15, 2004	Title V Renewal
2051-089-0239-V-02-1	June 2, 2005	Addition of burners and modification of oven ductwork.

D. Process Description

1. SIC Codes(s)

2051 – Bread and other bakery products except cookies and crackers

The SIC Code(s) identified above were assigned by EPD's Air Protection Branch for purposes pursuant to the Georgia Air Quality Act and related administrative purposes only and are not intended to be used for any other purpose. Assignment of SIC Codes by EPD's Air Protection Branch for these purposes does not prohibit the facility from using these or different SIC Codes for other regulatory and non-regulatory purposes.

Should the reference(s) to SIC Code(s) in any narratives or narrative addendum previously issued for the Title V permit for this facility conflict with the revised language herein, the language herein shall control; provided, however, language in previously issued narratives that does not expressly reference SIC Code(s) shall not be affected.

2. Description of Product(s)

The facility produces bread and buns.

3. Overall Facility Process Description

Bread production - Earthgrains Baking Companies, Inc. - Atlanta Bakery uses a sponge-dough process to make bread. Flour, yeast, water, and other miscellaneous ingredients are mixed in the bread sponge mixer to create the sponge. The ingredients are allowed to ferment, after being mixed in the sponge mixer, and are then mixed with the remaining ingredients in one of the two bread dough mixers. Each mixer is equipped with a single air relief vent to exhaust air from the pneumatic flour transfer system. Each air relief vent is fitted with a fabric breather bag that captures almost all of the flour particulates. Each mixer is located inside the bakery building. The mixers do not exhaust directly to the outside air.

Panned dough is transferred to a proof box, where the product is exposed to humidified conditions that allow the yeast to ferment and the dough to rise. Humidification of the proof box is provided by steam supplied by one of the two natural gas or propane-fired boilers. By-products of the natural gas and propane combustion process are exhausted through a stack on each of the two boilers. Once the panned dough rises, the dough is transferred to the bread oven (Emission Unit ID No. B001) for baking. The oven is fired by either natural gas or propane. The by-products generated from the natural gas or propane combustion combine with the constituents created from the yeast fermentation and baking processes, and together are exhausted through two exhaust stacks (ST1A and ST1B) on the bread oven (Emission Unit ID No. B001). VOC emissions (ethanol) from stacks ST1A and ST1B are controlled by a catalytic oxidizer. The exhaust is vented through the roof of the bakery building and released to the outside atmosphere.

The finished product is allowed to cool and then sliced and packaged for delivery. There are no air emissions associated with the packaging process.

Bun production – The facility uses two different types of processes—sponge-dough process and straight-dough process—to make buns in two bun ovens. The bun baking operations at the facility begin by mixing flour, yeast, water, and other miscellaneous ingredients in the bun sponge mixer or the bun dough mixers to create the sponge or the dough, respectively. For bun products that use the sponge-dough process, the ingredients are allowed to ferment after being mixed in the sponge mixer, and are then mixed with the remaining ingredients in one of the two bun dough mixers before being sent through the mechanical process. For the bun products that use the straight-dough process, the ingredients are allowed to ferment after being mixed in one of the two bun dough mixers, and are then sent through the mechanical process. Each mixer is equipped with a single air relief vent to exhaust air from the pneumatic flour transfer system. Each air relief portal is fitted with a fabric breather bag that captures almost all of the flour particulates. Each mixer is located inside the bakery building. The mixers do not exhaust directly to the outside air. The mechanical process divides the dough, rounds the divided portions of dough, and molds the dough into metal pans. No air emissions are associated with this portion of the bun baking process.

Panned dough is transferred to a proof box, where the product is exposed to humidified conditions, which allow the yeast to ferment and the dough to rise. Humidification of the proof box is provided by steam supplied by one of the two natural gas or propane-fired boilers. By-products of the natural gas and propane combustion process are exhausted through a stack on each of the two boilers.

Once the panned dough rises, the dough is transferred to one of the two bun ovens for baking (Emission Unit ID No. B800 and B400). The ovens are fired by either natural gas or propane. The by-products generated from the natural gas or propane combustion combine with the constituents created from the yeast fermentation and baking processes, and together are exhausted through two exhaust stacks on each of the two ovens: (1) ST8A and ST8B on the Baker Perkins 800 line bun oven, and (2) ST4A and ST4B on the Baker Perkins 400 line bun oven. The exhausts are vented through the roof of the bakery building and released to the outside atmosphere.

The finished product is allowed to cool and then sliced and packaged for delivery. There are no air emissions associated with the packaging process.

Support Facilities - Five flour silos (Emission Unit ID Nos. FS1 thru FS5) provide the flour for the processes. The two Burnham Corporation Boilers (Emission Unit ID Nos. B1 and B2) provide steam for the proof box on each process line. Nine inkjet printers are used to mark information onto each package of bread product produced at the facility. These emission units can be found in the insignificant activities section of the permit.

4. Overall Process Flow Diagram

The facility provided a process flow diagram in their Title V permit application.

E. Regulatory Status

1. PSD/NSR

The facility has previously accepted a facility wide 100 tpy VOC. The PTE from the facility was over 250 tpy, therefore, the facility took a limit to avoid paying higher Title V fees. The facility is a major NAA-NSR source because potential VOC emissions from the facility are greater than 25 tpy and the facility is located in DeKalb County, which is in the Atlanta Ozone Non-Attainment area.

2. Title V Major Source Status by Pollutant

Table 2: 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	Y			✓
PM_{10}	Y			✓
SO_2	Y			✓
VOC	Y	✓		
NO_x	Y			✓
CO	Y			✓
TRS	N/A			
H_2S	N/A			
Individual HAP	N/A			
Total HAPs	N/A			

3. MACT Standards

This facility is not a major source for any hazardous air pollutant (HAP) and is not subject to any major source MACT Standard.

4. Program Applicability (AIRS Program Codes)

Program Code	Applicable (y/n)
Program Code 6 - PSD	No
Program Code 8 – Part 61 NESHAP	No
Program Code 9 - NSPS	No
Program Code M – Part 63 NESHAP	No
Program Code V – Title V	Yes

Regulatory Analysis

II. Facility Wide Requirements

A. Emission and Operating Caps:

The facility has a 100 ton per year VOC emission limit.

B. Applicable Rules and Regulations

Not Applicable.

C. Compliance Status

Earthgrains Baking Companies, Inc. does not currently have any noncompliance issues.

D. Operational Flexibility

None applicable.

E. Permit Conditions

Permit Condition No. 2.1.1 limits facility wide VOC emissions to 100 tons during any consecutive 12-month period.

Old Permit Condition No. 2.4.1 required the facility to submit a RACT plan. The RACT plan was submitted on May 15, 2005. It was approved upon review and corresponding conditions were incorporated into Permit No. 2051-089-0239-V-02-1. Therefore, this condition is no longer necessary.

III. Regulated Equipment Requirements

A. Brief Process Description

The bread and bun production lines consist of three ovens (Emission Unit ID Nos. B001, B400, and B800). The burner ratings for the ovens are 8.0 MMBTU/hr for the bread oven and 4.5 MMBTU/hr and 3.0 MMBTU/hr for the two bun ovens. For process description see Bread/Bun Production in Section I D. – Overall Process Description.

The catalytic oxidizer (Air Pollution Control Device ID No. C001) utilizes a natural gas burner that has a rating of 1.2 MMBTU/hr. The catalyst inlet temperature of the catalytic oxidizer will be maintained at or above the temperature determined by the most recent performance test.

B. Equipment List for the Process

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
B001	Bread Oven	391-3-1-.02(2)(b), 391-3-1-.02(2)(e), 391-3-1-.02(2)(g), 391-3-1-.02(2)(tt)	3.2.1, 3.4.1, 3.4.2, 3.4.3	C001	Catalytic Oxidizer
B400	Bun Oven	391-3-1-.02(2)(b), 391-3-1-.02(2)(e), 391-3-1-.02(2)(g), 391-3-1-.02(2)(tt)	3.4.1, 3.4.2, 3.4.3	N/A	N/A
B800	Bun Oven	391-3-1-.02(2)(b), 391-3-1-.02(2)(e), 391-3-1-.02(2)(g), 391-3-1-.02(2)(tt)	3.4.1, 3.4.2, 3.4.3	N/A	N/A

C. Equipment & Rule Applicability

Emission and Operating Caps:

The two stacks for Bread Oven B001 are required to exhaust to the catalytic oxidizer at all times excluding startup, shutdown, or malfunction as required by Georgia Rule (tt) and NAA-NSR Avoidance. The catalytic oxidizer is required to operate at or above temperatures established by the last performance test.

Rules and Regulations Assessment:

All emission units are subject to Georgia Rule 391-3-1-.02(b) for Visible Emissions.

The ovens are not subject to the particulate matter emission limits in Georgia Rule 391-3-1-.02(d) for Fuel-Burning Equipment. All ovens are direct-fired, therefore, Rule (d) is not applicable.

All emission units are subject to the particulate matter emission limits in Georgia Rule 391-3-1-.02(e) for Particulate Emissions from Manufacturing Processes.

The ovens are subject to Georgia Rule 391-3-1-.02(g) for Sulfur Dioxide. Due to the combustion of only gaseous fuels, these units are expected to routinely comply with the sulfur content limit in Rule (g).

All emission units are subject to Georgia Rule 391-3-1-.02(tt) for VOC Emissions from Major Sources. Rule (tt) provides case-by-case reasonably available control technology (RACT) at Title V major VOC sources for VOC emission units, if not covered by a more specific VOC rule.

D. Compliance Status

Earthgrains Baking Companies, Inc. does not currently have any noncompliance issues.

E. Operational Flexibility

None applicable.

F. Permit Conditions

Permit Condition No. 3.2.1 requires emissions from Bread Oven B001 to be exhausted to the catalytic oxidizer at all times excluding periods of startup, shutdown, or malfunction.

Permit Condition No. 3.4.1 limits visible emissions from all emission units. This condition was modified to remove Emission Unit ID Numbers to allow for easier modification of the permit in the future.

Permit Condition No. 3.4.2 limits particulate emissions from all emission units. This condition was modified to reflect current condition language and Emission Unit ID Numbers were removed to allow for easier modification of the permit in the future.

Permit Condition No. 3.4.3 limits the sulfur content of fuels burned by the ovens. This condition was modified by removing Emission Unit ID Numbers to allow for easier modification of the permit in the future.

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

A. General Testing Requirements

The permit includes a requirement that the Permittee conduct performance testing on any specified emission unit when directed by the Division. Additionally, a written notification of any performance test(s) is required 30 days (or sixty (60) days for tests required by 40 CFR Part 63) prior to the date of the test(s) and a test plan is required to be submitted with the test notification. Test methods and procedures for determining compliance with applicable emission limitations are listed and test results are required to be submitted to the Division within 60 days of completion of the testing.

B. Specific Testing Requirements

1. Individual Equipment

Permit Condition No. 4.2.1 requires the facility to test the destruction efficiency of the catalytic oxidizer once every five years to ensure the proper operation of the oxidizer.

Permit Condition No. 4.2.2 requires the facility to test the destruction efficiency of the catalytic oxidizer every time the catalyst is replaced. During this test, the facility must also determine the new temperature range for the catalytic oxidizer.

2. Equipment Groups (all subject to the same test requirements):

None Applicable.

V. Monitoring Requirements

A. General Monitoring Requirements

Condition 5.1.1 requires that all continuous monitoring systems required by the Division be operated continuously except during monitoring system breakdowns and repairs. Monitoring system response during quality assurance activities is required to be measured and recorded. Maintenance or repair is required to be conducted in an expeditious manner.

B. Specific Monitoring Requirements

1. Individual Equipment:

Permit Condition No. 5.2.1 requires the facility to continuously monitor the temperature of the gas stream upstream of the catalyst bed on the catalytic oxidizer. The facility must also monitor the pressure drop across the catalyst bed.

Permit Condition No. 5.2.2 requires the facility to continuously monitor the temperature of the gas stream downstream of the catalyst bed for the catalytic oxidizer. This is a state only enforceable condition.

2. Equipment Groups (all subject to the same monitoring requirements):

None applicable.

C. Compliance Assurance Monitoring (CAM)

The facility has identified two pollutant specific emission units (PSEU) that is subject to CAM for VOC. Bread oven BO01 is a pollutant specific emission unit (PSEU) per Part 64 because the bread oven (1) is subject to an emission standard (i.e., facility -wide VOC emissions limit) for which there is a Part 64 control device (VOC controlled by a catalytic oxidizer) and (2) the pre controlled potential VOC emission rate is greater than 100 tpy. Thus, the oxidizer is subject to 40 CFR Part 64 – Compliance Assurance Monitoring.

As the controlled potential to emit of VOC emissions from the bread oven is greater than 100 tons per year, the required Part 64 data collection frequency is defined by 40 CFR 64.3(b)(4)(ii). This portion of the CAM regulation requires the Permittee to collect four or more data values equally spaced over each hour and average the values, as applicable, over the applicable averaging periods as determined in accordance with 40 CFR 64.3(b)(4)(i).

The primary indicator of proper control device operation for VOC is the inlet gas temperature upstream of the catalyst bed in the catalytic oxidizer to assure that the control efficiency is at least 90% assuming 100% capture efficiency. The data will be recorded continuously on electronic format for additional analysis.

The secondary indicator of proper control device operation for VOC is the pressure drop across the catalyst bed of the catalytic oxidizer to assure proper flow through the catalyst media. The data will be recorded continuously on electronic format for additional analysis.

Earthgrains Baking Companies, Inc. submitted a CAM plan on March 13, 2009, in which they proposed to use the inlet temperature to satisfy the requirements of Part 64. An updated CAM Plan was submitted on September 17, 2009, in which they proposed to use the pressure drop across the catalyst bed as a secondary indicator. The applicable elements of the applicant's CAM plan are included in Condition Nos. 5.2.3 and 5.2.4.

VI. Record Keeping and Reporting Requirements

A. General Record Keeping and Reporting Requirements

The Permit contains general requirements for the maintenance of all records for a period of five years following the date of entry and requires the prompt reporting of all information related to deviations from the applicable requirements. Records, including identification of any excess emissions, exceedances, or excursions from the applicable monitoring triggers, the cause of such occurrence, and the corrective action taken, are required to be kept by the Permittee and reporting is required on a semiannual basis.

Permit Condition No. 6.1.7c.i. was modified to define an excursion as any three-hour average inlet gas temperature upstream of the catalyst bed of the catalytic oxidizer outside of the range determined by the last performance test. This condition previously referenced Permit Condition No. 3.5.1 which was removed in the last permit amendment.

New Permit Condition No. 6.1.7c.ii. defines an excursion as any three-hour average of pressure drop that is outside the range established by the manufacturer. This range is 0.5-4.5 inches of water column.

Permit Condition No. 6.1.8 was added by this Renewal to require the facility to submit an annual Emissions Statement. The annual Emissions Statement is required since the facility is a major source of VOC emissions and is located in DeKalb County.

B. Specific Record Keeping and Reporting Requirements

After reviewing previous narratives for the facility, the Division has determined that the facility is no longer required to calculate VOC emissions from insignificant VOC Emitting Activities in Attachment B. Therefore, Condition Nos. 6.2.5 through 6.27 were removed. Condition No. 6.2.12 was also removed since the facility submitted their RACT plan on May 15, 2005. Due to these changes all record keeping and reporting requirements within the renewal permit are explained in further detail below.

Permit Condition No. 6.2.1 requires the facility to keep records for all variables used in the equation in Condition No. 6.2.2 to calculate the VOC emission factor.

Permit Condition No. 6.2.2 contains the equation used to calculate the VOC emission factor. The equation is derived based on source testing as presented in EPA Publication 453/R-92-017 titled "Alternative Control Technology Document for Bakery Oven Emissions". The equation was modified by this renewal application to reflect current Division policy for documenting equations. The reference for the equation was removed from the permit and is documented here in the narrative. Emission Unit ID Numbers were removed to allow for easier modification of the permit in the future.

Permit Condition No. 6.2.3 requires the facility to record the monthly VOC emissions from the bread-yeast operations.

Permit Condition No. 6.2.4 requires the facility to record the monthly VOC Emissions from the combustion of fuels in the ovens.

Permit Condition No. 6.2.5 requires the facility to calculate the monthly VOC emissions from all units including the bread-yeast operations and combustion in the ovens. If the VOC emission rate is greater than 8.3 tons per month, the facility must notify the Division.

Permit Condition No. 6.2.6 requires the facility to calculate the consecutive 12-month rolling total of VOC emissions from all units including the bread-yeast operations and ovens. If the VOC emission rate is greater than 100 tons, the facility must notify the Division.

VII. Specific Requirements

A. Operational Flexibility

Not Applicable.

B. Alternative Requirements

Not Applicable

C. Insignificant Activities

Refer to http://airpermit.dnr.state.ga.us/GATV/default.asp for the Online Title V Application.

Refer to the following forms in the Title V permit application:

- Form D.1 (Insignificant Activities Checklist)
- Form D.2 (Generic Emissions Groups)
- Form D.3 (Generic Fuel Burning Equipment)
- Form D.6 (Insignificant Activities Based on Emission Levels of the Title V permit application)

D. Temporary Sources

Not Applicable.

E. Short-Term Activities

Not Applicable.

F. Compliance Schedule/Progress Reports

Not Applicable.

G. Emissions Trading

Not Applicable.

H. Acid Rain Requirements

Not Applicable.

I. Stratospheric Ozone Protection Requirements

Not Applicable.

J. Pollution Prevention

Not Applicable.

K. Specific Conditions

Not Applicable.

VIII. General Provisions

Generic provisions have been included in this permit to address the requirements in 40 CFR Part 70 that apply to all Title V sources, and the requirements in Chapter 391-3-1 of the Georgia Rules for Air Quality Control that apply to all stationary sources of air pollution.