Facility Name: **Packaging Corporation of America**
City: Valdosta
County: Lowndes
AIRS #: 04-13-185-00001 Application #: 15436

Date SIP Application Received: June 24, 2004
Date Title V Application Received: June 24, 2004
Permit No: 2631-185-0001-V-01-5

Program	Review Engineers	Review Managers
SSPP	Irene Abraham	Dave Matos
SSCP	Sandra Alvarado	Douglas Waldron
ISMP	Sid Stephens	Richard Taylor
TOXICS	Sherry Waldron	Karen Hays

Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and 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 draft 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
2631-185-0001-V-01-0	July 16, 2002	x	
2631-185-0001-V-01-1	November 23, 2003	x	
2631-185-0001-V-01-2	February 24, 2004	x	
2631-185-0001-V-01-3	April 21, 2004	x	
2631-185-0001-V-01-4	June 7, 2004	x	

Table 2: Comments on Specific Permits

Permit Number	Comments
2631-185-0001-V-01-0	Original Title V Permit
2631-185-0001-V-01-1	Amendment for the construction and operation of two electrostatic precipitators on the recovery furnaces at the facility
2631-185-0001-V-01-2	Amendment for change of deadline of required performance test for the redesigned ESP for No. 2 Recovery Furnace. Also to correct description of the new ESP for No. 3 Recovery Furnace.
2631-185-0001-V-01-3	Incorporation of 40 CFR 63 Subpart MM into the permit.
2631-185-0001-V-01-4	Administrative amendment to modify the language of permit conditions in Permit Amendment No. 2631-185-0001-V-01-3.

B. Regulatory Status

1. PSD/NSR/RACT

This is a PSD facility; however, some limits have been taken to avoid PSD on certain modifications. Please refer to the narrative for the initial Title V Permit No. 2631-185-0001-V-01-0 for more details.

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	Yes	✓		
H_2S	Yes	✓		
Individual HAP	Yes	✓		
Total HAPs	Yes	✓		

II. Proposed Modification

A. Description of Modification

This modification is for the installation of an overfire air (OFA) system and economizer section on the Riley Boiler (Source Code 1005) and an overfire air (OFA) system on the C.E. Bark Boiler (Source Code 1006), and modification of the wet scrubber (C004) servicing both sources. The modification will result in increased use of biomass fuel, increased steam generation per pound of biomass fuel and a corresponding reduction in fossil fuel usage and the associated emissions in these boilers. It will also result in reduced particulate matter emissions and early achievement of the emission standards specified in 40 CFR 63 Subpart DDDDD. The modification has been determined as a pollution control project (PCP).

The facility submitted the results of the air quality modeling analyses to support the proposed modification on November 19, 2004. The facility proposed a new SO_2 emission limit (193.6 lb/hr) from the C.E. Power Boiler (Source Code 1017) in order to comply with the NAAQS and the PSD Increment. Alternately, the facility proposed to increase the height of the stack of the C.E. Power Boiler (Source Code 1017) in lieu of complying with the lower SO_2 emission limit. The facility has not decided on which operating scenario they will proceed, however, the new SO_2 emission limit is in effect until the facility decides to raise the stack of the C.E. Power Boiler.

B. Emissions Change

Table 4: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Future Potential to Past Actual Emissions Increase (Decrease) (tpy)
PM	Yes	Unknown at this time	(80.60)
PM_{10}	Yes	Unknown at this time	(80.60)
SO_2	Yes	Unknown at this time	36.75
VOC	Yes	Unknown at this time	9.94
NO_x	Yes	Unknown at this time	106.05
CO	Yes	Unknown at this time	(10,629.19)
TRS	Yes	Unknown at this time	0
H_2S	Yes	Unknown at this time	0
Individual HAP	Yes	Unknown at this time	0
Total HAPs	Yes	Unknown at this time	0

C. PSD/NSR Applicability

The proposed modification is determined to be a Pollution Control Project (PCP). The modification is not subject to PSD although the increase of NOx emissions exceeds the PSD Significant Threshold of 40 tons per year. The project is determined to be environmentally beneficial due to the emission reductions of PM and CO with only one significant collateral increase of NOx emissions. Please refer to the PCP Evaluation for more details on the justification of conducting a PCP.

III. Facility Wide Requirements

A. Emission and Operating Caps

Not applicable.

B. Applicable Rules and Regulations

- Rules and Regulations Assessment – Not applicable
- Emission and Operating Standards – Not applicable

C. Compliance Status

In compliance.

D. Operational Flexibility

Not applicable.

E. Permit Conditions

Not applicable.

IV. Regulated Equipment Requirements

A. Brief Process Description

This modification is for the installation of an overfire air (OFA) system and economizer section on the Riley Boiler (Source Code 1005) and an overfire air (OFA) system on the C.E. Bark Boiler (Source Code 1006), and modification of the wet scrubber (C004) servicing both sources. The modification will result in increased use of biomass fuel, increased steam generation per pound of biomass fuel and a corresponding reduction in fossil fuel usage and the associated emissions in these boilers. It will also result in reduced particulate matter emissions and early achievement of the emission standards specified in 40 CFR 63 Subpart DDDDD. The modification has been determined as a pollution control project (PCP).

The facility submitted the results of the air quality modeling analyses to support the proposed modification on November 19, 2004. The facility proposed a new SO_2 emission limit (193.6 lb/hr) from the C.E. Power Boiler (Source Code 1017) in order to comply with the NAAQS and the PSD Increment. Alternately, the facility proposed to increase the height of the stack of the C.E. Power Boiler (Source Code 1017) in lieu of complying with the lower SO_2 emission limit. The facility has not decided on which operating scenario they will proceed, however, the new SO_2 emission limit is in effect until the facility decides to raise the stack of the C.E. Power Boiler.

B. Equipment List for the Process

The modified equipment list is presented below:

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	**Description**	**Applicable Requirements/Standards**	**Corresponding Permit Conditions**	**ID No.**	**Description**
1005	Riley Combination Boiler	391-3-1-.02(2)(b) 391-3-1-.02(2)(d) 391-3-1-.02(2)(g)	3.2.1, 3.3.30, 3.4.11, 3.4.16, 4.2.1, 4.2.12, 4.2.13, 4.2.14, 4.2.15, 5.2.2, 5.2.3, 5.2.13, 5.2.14, 6.1.7, 6.2.2	C003 C004	Cyclone Separator Venturi Scrubber
1006	C.E. Combination Boiler	391-3-1-.02(2)(b) 391-3-1-.02(2)(d) 391-3-1-.02(2)(g)	3.2.1, 3.3.30, 3.4.11, 3.4.16, 4.2.1, 4.2.12, 4.2.13, 4.2.14, 4.2.15, 5.2.2, 5.2.3, 5.2.13, 5.2.15, 6.1.7, 6.2.2	C005 C004	Cyclone Separator Venturi Scrubber
1017	C.E. Power Boiler	391-3-1-.02(2)(b) 391-3-1-.02(2)(d) 391-3-1-.02(2)(g)	3.2.2, 3.4.11 through 3.4.13, 4.2.1, 4.2.2, 5.2.3, 6.1.7, 6.2.25, 6.2.26, 6.2.27	none	

* Generally applicable requirements contained in this permit may also apply to emission units listed above.

C. Equipment & Rule Applicability

- Emission and Operating Caps
  The facility has taken a voluntary limit of 302.21 tons per year of particulate matter emissions from the combined stack of the Riley and C.E. Combination Boilers. This limit is taken from the baseline PM emissions for the purpose of PSD avoidance. This limit is to show that the boiler project will result in no

increase of actual PM emissions. This limit is in effect until the compliance date of the Boiler MACT (September 13, 2007), where the particulate matter emission limits from the Boiler MACT will be effective then.
The sulfur input to the C.E. Power Boiler is limited to 2323 lbs/day (based on the new SO_2 emission rate of 193.6 lbs/hr from the C.E. Power Boiler and assuming 100% conversion from sulfur to SO_2) in order to comply with the NAAQS and PSD Increment.

- Applicable Rules and Regulations -

  Not applicable

D. Compliance Status

In compliance.

E. Operational Flexibility

Not applicable.

F. Permit Conditions

Condition 3.2.2 is a new condition that limits the sulfur input to the C.E. Power Boiler to 2323 lbs/day.

Condition 3.3.30 is a new condition that limits the PM emissions from the C.E. and Riley Combination Boilers to 302.21 tons per year, which is the baseline PM emission rate.

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

A. Individual Equipment:

Not applicable.

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

The C.E. and Riley Combination Boilers are required to be tested for PM and SO_2 within 60 days after the completion of the last stage of the project. The test is conducted to ensure that there is no actual emission increase of each of the above-mentioned pollutants.

Even though the future potential to past actual NOx emission exceeds the PSD significant increase threshold value, the actual NOx emission after the modification is not expected to increase. The facility was never required to test the combination boilers for NOx emission prior to this proposed modification. The only pre-project NOx data is a spot check of the NOx by the vendor, which indicated that the boilers' emissions were consistent with AP-42 factors. Even though OFA is often installed as a NOx control technology, the vendor stated the future NOx emission rate is not expected to be reduced here, in part due to the normally low NOx emissions for wood fired boilers. Hence, the emission factor used to predict the post-project emissions was the same AP-42 factor used for the baseline emissions. There is no actual increase in NOx emission rate and therefore is not a modification under NSPS.

Conditions 4.2.12 through 4.2.15 specify the testing requirements following completion of the project.

Condition 4.1.3.r is an administrative change to correct the inadvertent deletion of the condition in the previously issued Title V Permit Amendment Number 2631-185-0001-V-01-1. (Note: This is not related to the boiler modification project).

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

A. Individual Equipment:

In order to demonstrate compliance with the sulfur input limit in Condition 3.2.2, the Company is required to monitor the amount of fuel oil burned in the C.E. Power Boiler each operating day (defined as 7:00 AM to 7:00 AM the following morning).

Condition 5.2.3.h.i is a new condition that requires the facility to monitor the amount of fuel oil fired in the C.E. Power Boiler daily.

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

The facility requested that the pH scrubbant limit of the Venturi Scrubber that controls emissions from the two modified boilers is expanded such that the scrubbant pH is limited to 6.3 when burning fuel oil in addition to TRS gases. This will ensure that SO_2 emissions from the boilers are reduced by approximately 60%.

Condition 5.2.3.a.iv are modified such that the facility is required to monitor scrubbant pH of the Venturi Scrubber at all time instead of just when burning TRS gases.

VII. Other Record Keeping and Reporting Requirements

Condition 6.1.7.b.iii which limits the opacity from the No. 1, 2, or 3 Recovery Boiler to 40% is deleted. It has been subsumed by Condition 6.1.7.a.viii in Title V Permit Amendment Number 2631-185-0001-V-01-3 which limits the opacity from the No. 1, 2, or 3 Recovery Boiler to 35% as a requirement of 40 CFR 63 Subpart MM. (This is not related to the boiler modification project).

Condition 6.1.7.b.vi is a new condition which defines an exceedance for any 24-hour period when the sulfur input to the C.E. Power Boiler is greater than 2323 lbs/day.

The performance testing required in Conditions 4.2.12 through 4.2.15 will establish a new operating parameter range for the scrubbant flow rate of the Venturi Scrubber (Source Code C004). Conditions 6.1.7.c.ii and 6.1.7.c.iii are modified to reflect the above-mentioned changes. The requested scrubbant pH limit of 6.3 for the Venturi Scrubber while the boilers burn fuel oil is also included in the modified Condition 6.1.7.c.iii.

Condition 6.1.7.d.vii is a new condition that requires the Company to submit records of the daily sulfur input to the C.E. Power Boiler with the quarterly reports required by Condition 6.1.4.

Condition 6.2.25 is a new condition that requires the Company to retain daily records of the amount of fuel oil fired to the C.E. Power Boiler.

Condition 6.2.26 is a new condition that requires the Company to calculate and record the rolling average sulfur content of the fuel oil received from the most recent 25 truck loads into the storage tank used to supply fuel oil to the C.E. Power Boiler on a daily basis.

Condition 6.2.27 is a new condition that requires the Company to calculate and record the sulfur input to the C.E. Power Boiler daily using the data required by Conditions 6.2.25 and 6.2.26.

VIII. Specific Requirements

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

A. Operational Flexibility

The facility is authorized to increase the height of the stack of the C.E. Power Boiler (Source Code 1017) per modeling analysis submitted on November 19, 2004, in lieu of complying with the lower SO_2 emission limit (with associated permit conditions 3.2.2, 5.2.3.h.i, 6.1.7.d.vii, 6.2.25, 6.2.26, and 6.2.27).
The facility must notify the Division once they determine whether or not the height of the stack of the C.E. Power Boiler will be increased. If the facility decides not to increase the height of the stack of the C.E. Power Boiler (Source Code 1017), the new SO_2 emission limit along with permit conditions 3.2.2, 5.2.3.h.i, 6.1.7.d.vii, 6.2.25, 6.2.26, and 6.2.27 will remain in effect.

B. Alternative Requirements

Not applicable.

C. Insignificant Activities

Not applicable.

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. Prevention of Accidental Releases

Not applicable.

J. Stratospheric Ozone Protection Requirements

Not applicable.

K. Pollution Prevention

Not applicable.

L. Specific Conditions

Not applicable.

Addendum to Narrative

The public comment period began on December 21, 2004 and ended on January 20, 2005. No comments from the public or the facility were received. The 45-day EPA review period began on January 21, 2005 and is scheduled to end on March 6, 2005. Due to construction time constraints PCA requested EPA to expedite their 45-day comment period. This request was made directly to EPA and resulted in several clarifications, but no formal comments. Note that EPA has reserved the right to issue further comment before the end of the review period, however they have indicated that further clarifications or comments are unlikely.

The Division had an informal discussion with EPA which resulted in the following clarifications to be noted in this narrative:

1. "C.E. Bark Boiler" in Condition 1.3 of the Permit is the same as "C.E. Combination Boiler" elsewhere in the permit.

2. The new PM limit of 302 tpy is enforced through the performance testing required by Condition 4.2.12 of the permit.

3. The primary purpose of the proposed modifications is to achieve early compliance with the Boiler MACT.

4. The scrubber modification is necessary in addition to the installation of the overfire air system and the economizer to the C.E and Riley Combination Boilers to achieve compliance with the Boiler MACT.