

SIP CONSTRUCTION PERMIT AND TITLE V MINOR MODIFICATION APPLICATION REVIEW

Facility Name: **Packaging Corporation of America**

City: Clyattville

County: Lowndes

AIRS #: 04-13-185-00001

Application #: 14645

Date SIP Application Received: August 5, 2003

Date Title V Application Received: August 2, 2003

Permit No: 2631-185-0001-V-01-1

Program	Review Engineers	Review Managers
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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 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	Y	

Table 2: Comments on Specific Permits

Permit Number	Comments
2631-185-0001-V-01-0	Initial Title V Permit

B. Regulatory Status

1. PSD/NSR/RACT

This is a PSD facility; however, some limits have been taken to avoid PSD on certain modifications. They are as follows:

Sulfur dioxide emissions from the incineration of Total Reduced Sulfur (TRS) compounds in the NCG Thermal Oxidizer from the LVHC non-condensable gas system, HVLC non-condensable gas system and the foul condensate stripper off gases are limited to 40 tons per 12 consecutive month period.

No. 4 Lime Kiln

- 131.2 tons/12 consecutive months of total particulate matter.
- 119.4 tons/12 consecutive months of PM10.
- 116.7 tons/12 consecutive months of sulfur dioxide.
- 281.3 tons/12 consecutive months of nitrogen oxides.
- 117.4 tons/12 consecutive months of carbon monoxide.
- 81.30 tons/12 consecutive months of volatile organic compounds.

Recovery Furnace No. 1 (Source Code 7000):

- Particulate matter emissions are limited to 68.87 tons/12 consecutive months
- TRS emissions are limited to 13.75 tons/12 consecutive months
- Black Liquor Firing Rate is limited to 153,966 tons of black liquor solids per 12 consecutive months

Recovery Furnace No. 3 (Source Code 7020):

- Particulate matter (PM) emissions are limited to 25.6 lb/hour

Package Boiler (Source Code 1058)

No.2 Fuel Oil is limited to 950,400 gallons per year

Hours of operation is limited to 2,160 hours per year

No. 3 Smelt Tank (Source Code 7025)

Particulate matter emissions are limited to 13.7 lb/hour

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 ₂ S	Yes	✓		
Individual HAP	Yes	✓		
Total HAPs	Yes	✓		

II. Proposed Modification

A. Description of Modification

The modification is for the installation of a new two chamber, 8-mechanical field / 16-electrical field electrostatic precipitator, ESP C015-A. ESP C015-A replaces the existing 3-chamber, 9-mechanical /9-electrical field ESP C015 currently serving the No.3 Recovery Furnace for PM control.

ESP C013 controlling PM emissions from Recovery Furnace No.2 is having its internals rebuilt as part of the modification. No changes are being made to the furnaces.

ESP C015-A is designed to meet and exceed the design efficiency of the current unit, and there will be no increase in emissions as a result of this modification. The new unit will be a forced draft design, a change that will substantially reduce the corrosion problems that have been experienced with the existing induced draft unit as it aged. Each chamber is designed at 75% capacity of the total maximum boiler load, allowing a chamber to be isolated on the run at a reduced boiler load as needed, for inspection and maintenance. A new stack of the same height (180 feet) and diameter (7.0 feet) is being installed for the new unit. The stack will be located on the roof of the ESP.

The existing ESP will be modified to operate as a standby ESP. The North chamber will be demolished, and the existing south and center chambers will be kept as a single standby section that will have blanked flanges installed in the ductwork. The standby section will only be utilized if the primary ESP fails and then the recovery furnace were taken down for 2-4 days to make the changeover to the backup ESP, and with similar downtime to return back to using the primary unit.

ESP C013 is not undergoing any design changes and it is required to control to the same standard as the existing unit.

B. Emissions Change

Table 4: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Net Potential Emissions Increase (Decrease) (tpy)	Increase Less Than Minor Mod Threshold (y/n)
PM	✓	0	0	yes
PM ₁₀	N/a	N/a	N/a	N/a
SO ₂	N/a	N/a	N/a	N/a
VOC	N/a	N/a	N/a	N/a
NO _x	N/a	N/a	N/a	N/a
CO	N/a	N/a	N/a	N/a
TRS	N/a	N/a	N/a	N/a
H ₂ S	N/a	N/a	N/a	N/a

Table 4: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Net Potential Emissions Increase (Decrease) (tpy)	Increase Less Than Minor Mod Threshold (y/n)
Individual HAPs	N/a	N/a	N/a	N/a
Total HAPs	N/a	N/a	N/a	N/a

C. PSD/NSR Applicability

The modification is not subject to PSD/NSR review, because no increase in emissions is being claimed by the facility

III. Facility Wide Requirements

A. Emission and Operating Caps

Not Applicable.

B. Applicable Rules and Regulations

Not Applicable.

C. Compliance Status

Not Applicable.

D. Operational Flexibility

Not Applicable.

E. Permit Conditions

Not Applicable.

IV. Regulated Equipment Requirements

A. Brief Process Description

The modification is for the installation of a new two chamber, 8-mechanical field / 16-electrical field electrostatic precipitator. ESP C015-A replaces the existing 3-chamber 9-mechanical /9-electrical field unit currently serving the No.3 Recovery Furnace for PM control. The existing unit is going to be modified and used as standby ESP C015. ESP C013 controlling PM emissions from Recovery Furnace No.2 is having its internals rebuilt as part of the modification. No changes are being made to the furnaces.

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
7010	No. 2 Recovery Furnace	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g) 391-3-1-.02(2)(gg)1(i)	4.2.6, 5.2.3, 6.1.7	C013	ESP
7020	No. 3 Recovery Furnace	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g) 391-3-1-.02(2)(gg)1(i)	4.2.4, 4.2.5, 5.2.3, 6.1.7	C015-A C015	Primary ESP Standby ESP

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

C. Equipment & Rule Applicability

Not Applicable.

D. Compliance Status

The Division has no compliance issues currently with the facility.

E. Operational Flexibility

Not Applicable.

F. Permit Conditions

Not Applicable.

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

A. Individual Equipment:

The facility is being required to test primary ESP C015-A and ESP C013 to provide reasonable assurance that the control devices are operating properly for control of PM and opacity. The test is also required to set the operating value of secondary power required in Condition 6.1.7.c. The test must be completed within 60 days of the initial use of each ESP.

The facility is also being required to test the modified existing ESP C015 within 60 days after its initial use for control of PM and opacity. This test will also determine the new total power value required by Condition 6.1.7.c. This test is dependent upon when and if it is ever used as the control device for the No. 3 Recovery Furnace. This test is required to assure the Division that the ESP meets the applicable standards specified in 40 CFR 63 Subpart MM.

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

Not Applicable.

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

A. Individual Equipment:

The facility must monitor secondary power and voltage on all ESPs in order to calculate the secondary power of the ESP. Only the ESP being used to control the No.3 Recovery Furnace has to operate the monitors. This data must be recorded at least once per shift.

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

Not Applicable.

VII. Other Record Keeping and Reporting Requirements

The facility must notify in writing the Division when the No.3 Recovery Furnace is being shutdown to transfer control from the primary ESP to the standby ESP within 7 days of such change.

VIII. Specific Requirements

A. Operational Flexibility

Not Applicable.

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 45-day EPA review started on October 7, 2003 and ended on November 21, 2003. The Division did not receive comments from EPA.